

Caribou-Targhee NF

Caribou-Targhee NF
1405 Hollipark Dr.
Idaho Falls, ID 83401
(208) 557-5760

Curlew National Grassland Plan

Caribou-Targhee National Forest

Lead Agency:

USDA-Forest Service

Responsible Official:

Jack Troyer, Acting Regional Forester
USDA-Forest Service
Intermountain Region
324 25th Street
Ogden, Utah 84401
Telephone: (801) 625-5605

For further information, contact:

Jerry B. Reese, Forest Supervisor
Caribou-Targhee National Forest
1405 Hollipark Dr.
Idaho Falls, Idaho 83401
Telephone: (208) 557-5760

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Curlew National Grasslands
Vicinity Map

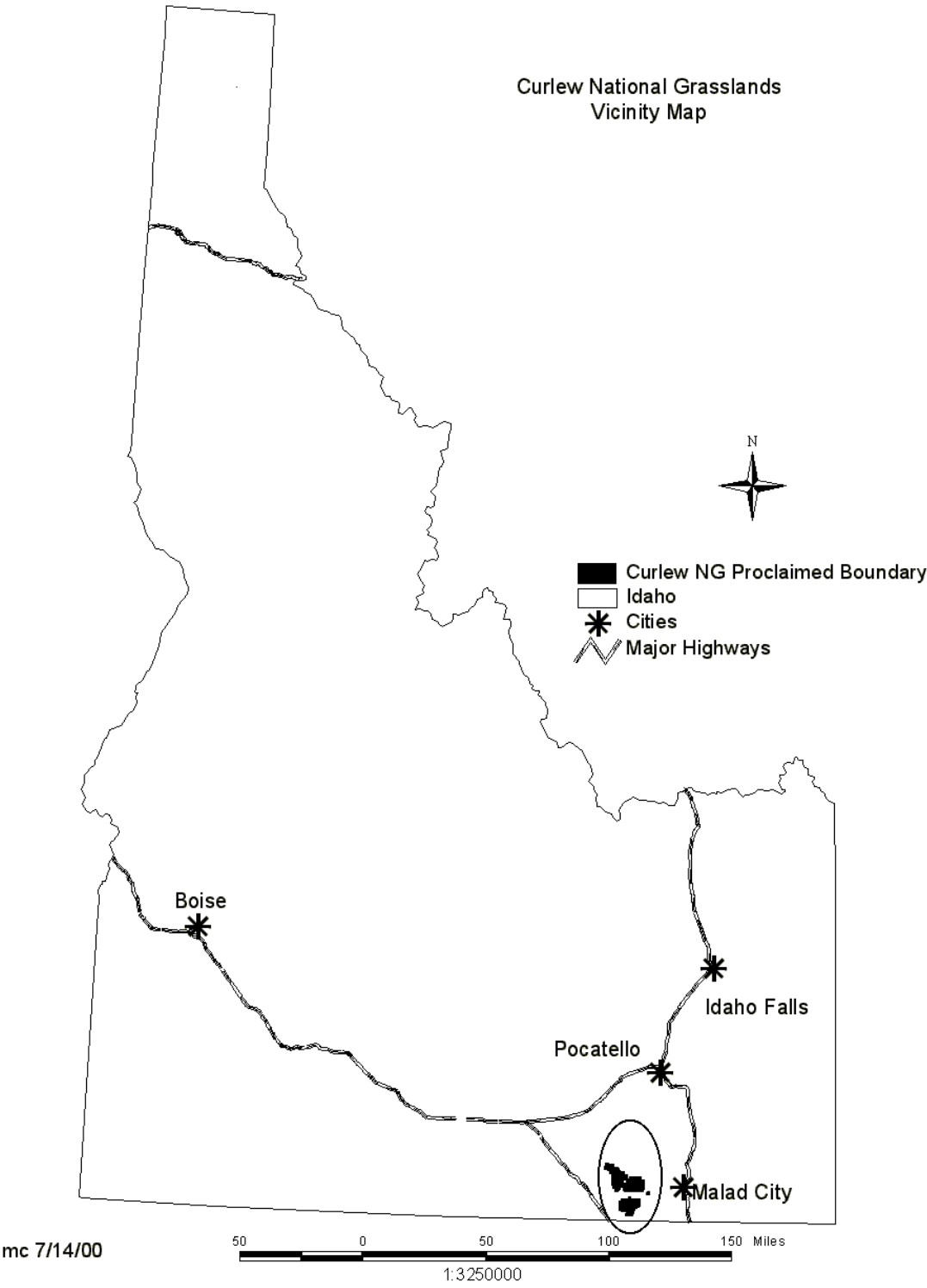







Table of Contents

CHAPTER 1: PURPOSE OF THE PLAN.....	1-1
<i>Why are we developing a Grassland Plan?.....</i>	<i>1-1</i>
<i>What is the Legal Framework of the Grassland Plan?.....</i>	<i>1-1</i>
<i>What Does the Grassland Plan Do?.....</i>	<i>1-2</i>
<i>Plant and Animal Diversity and Population Viability.....</i>	<i>1-3</i>
<i>Federal Tribal Trust Responsibilities.....</i>	<i>1-4</i>
<i>Adaptive Management.....</i>	<i>1-4</i>
<i>What Management Direction has been Considered?.....</i>	<i>1-4</i>
<i>How is this Grassland Plan Structured?.....</i>	<i>1-6</i>
CHAPTER 2: SUMMARY OF THE AMS.....	2-1
CURRENT RESOURCE CONDITIONS AND TRENDS.....	2-1
<i>Unchanged Management Direction.....</i>	<i>2-1</i>
OVERVIEW OF THE AMS FINDINGS FOR GRASSLAND RESOURCES.....	2-2
<i>General Conditions.....</i>	<i>2-2</i>
<i>Riparian and Watersheds.....</i>	<i>2-2</i>
<i>Vegetation.....</i>	<i>2-3</i>
<i>Wildlife.....</i>	<i>2-4</i>
<i>Human Uses and Values.....</i>	<i>2-6</i>
<i>Summary of Trends for the Grassland.....</i>	<i>2-7</i>
NEEDS FOR CHANGE.....	2-8
<i>Soil.....</i>	<i>2-8</i>
<i>Terrestrial Ecosystems.....</i>	<i>2-8</i>
<i>Aquatic Ecosystems.....</i>	<i>2-9</i>
<i>Inventory and Research Needs.....</i>	<i>2-9</i>
ISSUES, CONCERNS AND OPPORTUNITIES.....	2-10
<i>Riparian and Watershed Management.....</i>	<i>2-10</i>
<i>Vegetation and Wildlife Habitat Management.....</i>	<i>2-10</i>
<i>Social and Economic Factors.....</i>	<i>2-12</i>
CHAPTER 3: GRASSLAND-WIDE GUIDANCE.....	3-1
DFC’S, GOALS, OBJECTIVES, STANDARDS AND GUIDELINES.....	3-1
ECOLOGICAL PROCESSES AND PATTERNS.....	3-2
<i>General Ecological Conditions.....</i>	<i>3-2</i>
<i>Insects And Disease.....</i>	<i>3-3</i>
<i>Fire/Fuels.....</i>	<i>3-3</i>
PHYSICAL ELEMENTS.....	3-4
<i>Soils.....</i>	<i>3-4</i>
<i>Air Quality.....</i>	<i>3-5</i>
<i>Water Quality.....</i>	<i>3-5</i>
<i>Lands.....</i>	<i>3-6</i>
<i>Minerals And Geology.....</i>	<i>3-7</i>
BIOLOGICAL ELEMENTS.....	3-8
<i>Terrestrial Ecosystems--Vegetation.....</i>	<i>3-8</i>
<i>Fisheries, Water, And Riparian Resources.....</i>	<i>3-10</i>
<i>Terrestrial Ecosystems—Wildlife Habitat.....</i>	<i>3-11</i>
FOREST USE AND OCCUPATION.....	3-14
<i>Tribal Coordination.....</i>	<i>3-14</i>
<i>Roads, Trails And Access.....</i>	<i>3-14</i>

<i>Recreation</i>	3-15
<i>Heritage Resources</i>	3-16
PRODUCTION OF COMMODITY RESOURCES	3-18
<i>Livestock Management</i>	3-18
<u>CHAPTER 4: SUBSECTION AND PRESCRIPTION AREAS</u>	4-1
ECOLOGICAL SUBSECTIONS.....	4-1
<i>Humboldt River High Plateau Subsection (342Ba)</i>	4-1
<i>Curlew Valley Lake Sediments Subsection (342Bb)</i>	4-2
MANAGEMENT PRESCRIPTIONS.....	4-4
<i>Introduction</i>	4-4
 <i>PRESCRIPTION 2.8.8 - RIPARIAN/WETLAND AREAS (RWA)</i>	4-6
 <i>PRESCRIPTION 3.4.1 - SPECIAL WILDLIFE AREAS</i>	4-10
 <i>PRESCRIPTION 4.1.2 - DEVELOPED RECREATION SITES</i>	4-12
 <i>PRESCRIPTION 6.5 – RANGELAND VEGETATION and UPLAND BIRD HABITAT</i> <i>MANAGEMENT</i>	4-14
 <i>PRESCRIPTION 8.1.2 - CONCENTRATED DEVELOPMENT AREAS</i>	4-18
<u>CHAPTER 5: IMPLEMENTATION AND MONITORING</u>	5-1
IMPLEMENTATION STRATEGY	5-1
MONITORING STRATEGY	5-3
<i>Monitoring Activities</i>	5-3
<i>Evaluation</i>	5-3
GLOSSARY	1
INDEX	1
<u>APPENDIX A: LAWS, REGULATIONS, POLICIES</u>	A-1
NATIONAL DIRECTION APPLICABLE TO THE GRASSLAND.....	A-1
<i>Policy Directives</i>	A-1
<i>Statutes</i>	A-3
<i>Regulations</i>	A-5
<i>Executive Orders</i>	A-6
<i>Best Management Practices for Idaho</i>	A-6
<u>APPENDIX B: WILDLIFE SPECIES LIST</u>	B-1
CURLEW VALLEY AREA WILDLIFE SPECIES LIST.....	B-1
<u>APPENDIX C: REVEGETATION SPECIES LIST</u>	C-1
POTENTIAL PLANT SPECIES FOR REVEGETATION	C-1

Introduction to the Curlew Grassland Plan

The Curlew National Grassland (hereafter generally referred to as the “Grassland”) is a portion of the Caribou-Targhee National Forest Administrative Unit. Specifically administered as a part of the Westside Ranger District, the Grassland is situated in southeast Idaho, north of the Utah-Idaho State line. It encompasses approximately 47,600 acres of federal land intermixed with private land. It is located approximately 17 air miles west of Malad, Idaho. The Forest Headquarters Office is located at 1405 Hollipark Drive, Idaho Falls, Idaho, 83401. (See Vicinity Map on inside front cover page.)

Why are we developing a Grassland Plan?

The Former Chief of the Forest Service, Mike Dombeck, in a letter to Regional Foresters dated April 22, 1998, recognized the value of national grasslands and the controversy over resource issues and decisions associated with them. In order to address the unique nature of grasslands and to focus attention during the planning process, the Chief directed that a separate plan for grasslands be developed as part of the planning process.

The Caribou National Forest and Curlew National Grassland Land Resource Management Plan (Forest Plan) was signed on September 27, 1985. The National Forest Management Act (NFMA) requires that Forest Plans be updated or revised on a 10-15 year cycle or as monitoring identifies a need for change. Because the Caribou LRMP did not have a separate Plan for the Curlew Grassland, the Forest Plan is being amended. 16 USC 1604(a) and 1604(f).

What is the Legal Framework of the Grassland Plan?

An approved land and resource management plan (Plan) is the product of a comprehensive notice and comment process established by Congress in the National Forest Management Act (NFMA). The approval of a Plan establishes direction so that all future decisions in the planning area will include an "interdisciplinary approach to achieve integrated consideration of physical, biological, economic and other sciences." *16 USC 1604*.

People, their needs and values, have keenly influenced natural resource conservation. In 1881 the first federal legislation addressing forest resource protection and management was enacted when Congress funded the Division of Forestry. During America's expansion in the mid and late 1800's, people became concerned about land abuses on the western frontier. As a result, Congress enacted the Organic Act of 1891. This Act established forest reserves from existing public domain lands for the purpose of improving and protecting the “forests within the reservation, or for the purpose of securing favorable water flows, and to furnish a continuous supply of timber for the use and necessities of the citizens of the United States.”

Around the turn of last century, the west was settled largely as a result of the Homestead Act. Many acres in the arid high desert were deep plowed and farmed. In the 1920's and 1930's, a severe drought caused many farmers to go broke. These lands were very disturbed and soil erosion rates were high. In 1933, Congress passed the Federal Emergency Relief Act to provide funds for the purchase of privately-owned submarginal lands throughout the nation. Before this legislation ended, Congress had acquired over 10 million acres, much of which had been severely eroded. On July 22, 1937, Congress passed the Bankhead-Jones Farm Tenant Act to, among other things, "develop a program of land conservation and land utilization in order thereby to correct maladjustments in land use and thus assist in controlling soil erosion, reforestation, preserving natural resources, protecting fish and wildlife," etc. A short time later, the lands acquired under Bankhead-Jones were transferred to the Soil Conservation Service who enacted programs to reduce erosion. Some years later, the Title III lands were renamed National Grasslands and management of them was transferred to the National Forest System. With this transfer, the lands acquired under the Bankhead-Jones Act became subject to the laws and regulations governing National Forests.

Management goals for the National Forests were articulated in the Multiple-Use Sustained-Yield Act (MUSYA) of 1960, and they remain the foundation for federally managed forests and grasslands. The MUSYA directs national forest and grassland management for the combination of uses that "will best meet the needs of the American people." Resource management is to be coordinated for "multiple uses" – considering the values of the various resources, but not necessarily maximizing dollar returns, nor requiring that areas be managed for all or even most uses. The Act also calls for "sustained yield" – a high level of resource outputs in perpetuity without impairing the productivity of the land.

The Grassland Plan implements the National Forest Management Act and the other laws by establishing direction so that all future decisions in the planning area will include an "interdisciplinary approach to achieve integrated consideration of physical, biological, economic and other sciences" [16 USC 1604(b), (f), (g) and (i)]. It also provides direction to assure coordination of multiple-uses (outdoor recreation, range, timber, watershed, wildlife, fish, minerals, and wilderness) and the sustained-yield of products and services [16 USC 1604(e)].

What Does the Grassland Plan Do?

The primary purpose of land and resource planning on the Curlew National Grassland is to sustain our watersheds and rangelands, providing for the multiple use of these lands. The Grassland Plan sets a clear course of action for 10 to 15 years. The Plan answers the questions: "What are conditions and outcomes that we should seek on the Curlew to provide for ecological sustainability and contribute to economic and social sustainability? How will accomplishment be measured? What kinds of actions do we need to take to achieve the conditions and outcomes? And, what will it cost?" This amendment builds upon the existing Caribou Land and Resource Management Plan, updating the current guidance to better reflect changing public values and current science and using this information to develop a separate management plan for the Curlew National Grassland.

The guiding framework for the forest plan comes from public issues of national, regional or local interest regarding the management of the Curlew National Grassland. The identification, analysis and resolution of these issues is a desired outcome of the planning process. Building on the foundation of sustainable ecological systems, forest planning provides for sustainable development that contributes to our economic and cultural systems and to our communities. Plan approval does not authorize, fund, or carry out any projects, unless specifically stated in the Record of Decision.

In the past, Forest or Grassland planning often focused on the short-term issues of land allocation and timber harvest levels. While these are still important issues, we believe that, consistent with the emphasis on ecological and social sustainability, the Plan emphasizes the development of desired

long-term landscape conditions and outcomes that will provide this sustainability. Using information on current conditions, from bioregional assessments and elsewhere, our Grassland Plan builds a pathway from the current state to the desired future state and includes an estimate of actions and budgets that will be needed.

The Plan does this by establishing four categories of specific decisions under NFMA:

- Contains a set of goals and objectives that lead to ecological sustainability, contributes to economic and social sustainability, and provides for multiple uses. (36 CFR 219.11(b))
- Establishes grassland-wide requirements (standards and guidelines) that apply to future management activities. (36 CFR 219.13 to 219.27)
- Establishes management direction through the use of prescription area designation. Prescriptions and management direction are the framework under which future site-specific decisions are made. (36 CFR 219.11(c))
- Establishes monitoring and evaluation requirements. (36 CFR 219.11(d))

The Grassland Plan focuses small landscape planning on the mix of activities and projects needed to meet goals and implement the Plan. Projects and activities are proposed, analyzed and carried out within the framework of the Plan. The consistency requirement of NFMA directs the Forest Service to evaluate proposed activities against the desired future conditions, goals, objectives, standards and guidelines of the Plan. The Plan allows or prohibits some uses and establishes standards and guidelines that regulate future resource use but it does not allocate uses on a site-specific level. All projects remain subject to site-specific and continuing compliance with Federal environmental laws, such as the Endangered Species Act, National Environmental Policy Act, Clean Water Act, and Clean Air Act.

Through monitoring and evaluation, new activities can be added to the Plan if they are consistent with the general strategic intent of the Plan. This adaptive management is critical to keeping Plans up-to-date and focused on achieving the desired future conditions we have committed to work towards.

Plant and Animal Diversity and Population Viability

The National Forest Management Act requires the Secretary of Agriculture to implement regulations "specifying guidelines for land management plans developed to achieve the goals of the Program which ... (B) provide for a diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple use objectives" [16 USC 1604(g)(3)(B)]. The diversity provision is one of ten subsections of direction from Congress regarding the implementation of planning regulations for Forest (Grassland) Plans to provide for multiple use and sustained yield. In accord with NFMA, the Secretary implemented regulations that address the diversity provision at 36 CFR 219.3, 219.19, 219.26, 219.27(a)(5), 219.27(a)(6) and 219.27(g).

The NFMA diversity provision and the fish and wildlife resource regulation establish a goal to provide habitat for the continued persistence of plant and animal species in the planning area. The goal is met by following the provisions of 36 CFR 219.19(a)(1) through (a)(7). The bottom line is that the Forest Service may not adopt a plan that it knows or believes would, through possible future Forest Service actions, extirpate a species. Viability assessments of all species are

not required. Compliance with 36 CFR 219.19 is not subject to precise numerical interpretation and cannot be set at a single threshold.

The fish and wildlife resource regulation does not require species-specific assessments to support a finding that a proposal is consistent with its terms. Rather the decision-maker may place reasonable reliance upon assessments of (1) species with habitat needs that are essentially the same; (2) a group of species generally thought to perform the same or similar ecosystem functions; and/or (3) the continued integrity and function of ecosystem(s) in which a species is found. Flexibility in selecting methodology is especially appropriate for species assessments, given the expertise and knowledge of local forest officials concerning the lands they manage, the variety of complex issues involved, and the often-limited resources available.

Federal Tribal Trust Responsibilities

The Shoshone-Bannock Tribe has ancestral Treaty Rights on all public domain lands reserved for National Forest purposes that are presently administered by the Caribou-Targhee National Forest. The relationship of the United States government with American Indian tribes is based on legal agreements between sovereign nations. The Fort Bridger Treaty of July 3, 1868 provided for the establishment of the Fort Hall Indian Reservation. It also granted hunting and fishing rights to tribal members on “all unoccupied lands of the United States.” These rights are still in effect, and management actions in this plan recognize valid rights. Consultation with the Shoshone-Bannock Tribal Council is required on land management activities and allocations that could affect these rights. Forest Supervisor Reese has consulted with the Shoshone-Bannock Tribal Council regarding this amendment and Grassland Plan (FEIS, Chapter 6).

Adaptive Management

An adaptive management strategy offers an avenue to describe and evaluate the consequences of changing information. This Grassland Plan uses adaptive management to insure that the management of this ecosystem responds to changing conditions and new information. As explained in the Final EIS and elsewhere in this Plan, the Curlew National Grassland is unique in many ways. The highly altered landscape affords many challenges since principles of management for native ecosystems do not apply universally here. During development of this plan, many questions have arisen regarding the proper way to manage the Grassland to achieve the Desired Future Conditions. Although the analysis reflects the best information available for Grassland management, some of the basic tenets have not been validated on the Grassland itself. For this reason, managers must be able to respond quickly to new information and practices obtained from site-specific monitoring. Adaptive management allows managers to respond to changing conditions without having to amend the Grassland Plan as often as with conventional NEPA decisions.

What Management Direction has been Considered?

DRAFT 1995 RESOURCES PLANNING ACT (RPA) PROGRAM

To ensure the Caribou National Forest's local program management was in alignment with local, regional and national trends, supplies, and demands from America's National Forests and Grasslands, a review was conducted of the Forest Service's Draft 1995 Resources Planning Act (RPA) Program. Direction for the Grassland is consistent with RPA.

LARGE-SCALE ASSESSMENTS

The Inland Native Fish Strategy established new interim riparian goals, riparian management objectives, and standards and guidelines for all new and proposed, and some ongoing, projects and activities. The goal of the strategy is to maintain or restore water quality, stream channel integrity, water tables, and riparian vegetation diversity and productivity to support healthy, functioning riparian

and aquatic ecosystems within the Columbia River Basin. This new direction replaced direction in the Forest Plan, except where the Forest Plan provided more protection for fish habitat.

This strategy is termed "interim" because it was designed to be replaced by direction from the Interior Columbia Basin Ecosystem Management Project (ICBEMP) and Environmental Impact Statement. Although only a very small portion of the Grassland is in the Columbia River Basin, the science assessment was used for the Curlew Plan and analysis. This was a coordinated approach and management strategy for the restoration and maintenance of long-term ecosystem health and integrity while supporting the economic and/or social needs of people, cultures, and communities, and providing sustainable and predictable levels of goods and services.

ROADS MANAGEMENT RULE

In November of 2000, the Forest Service published its Roads Policy Rule to govern the transportation system on National Forest System lands. In compliance with this Rule, the Interdisciplinary Team conducted a roads analysis for the Curlew National Grassland in the Fall of 2001. This roads analysis follows the process found in, Roads Analysis: Informing Decisions about Managing the National Forest Transportation System.

The objective of the roads analysis is to provide line officers with information about the transportation system within the Curlew National Grassland to help them develop road systems that are safe and responsive to public needs and desires, are affordable and efficiently managed, have minimal negative ecological effects on the land, and are in balance with available funding for needed management actions. This analysis identifies the problems, risks and opportunities regarding roads in the Curlew National Grassland area. The information generated from the analysis help define the purpose and need of projects that may be proposed at the site-specific level.

Road Management Objectives (RMOs) establish the intended purpose of an individual road based on management area direction and access management objectives. Road management objectives contain design criteria, operation criteria, and maintenance criteria (FSH 7709.55, Section 33). Road Management Objectives for classified roads in the Curlew National Grassland are located on file at the Caribou-Targhee National Forest in Idaho Falls, Idaho.

WESTERN REGIONAL CORRIDOR STUDY

Current direction meets management needs for lands now, and into the foreseeable future. Based on direction found in the Regional Deskguide (1993); a review of **1992 Western Regional Corridor Study**, prepared by the Western Utility Group; and direction found in the 1985 Forest Plan for utility corridors have been reviewed. Utility corridors on the Grassland have been identified and management prescriptions applied. The Forest does not anticipate requests for any additional small hydropower projects in the foreseeable future that could affect water flows on the Grassland. Direction in the 1985 Forest Plan is adequate to meet current needs and is incorporated into this Plan.

How is this Grassland Plan Structured?

- Chapter 1 is an overview of the purpose of the Grassland Plan.
- Chapter 2 is a summary of the Analysis of the Management Situation (AMS) and major issues driving the planning process. This provides a basis for understanding where the direction in the Plan originated. It shows the baseline information and public sentiment that drove the Desired Future Conditions (DFCs) and goals.
- Chapter 3 is a detailed description of the Grassland-wide Management Direction. Organized by resource area, this chapter contains specific DFCs, goal, objectives, standards and guidelines. This management direction applies across the Curlew National Grassland unless superceded by the direction in Chapter 4.
- Chapter 4 describes the management prescriptions that will be applied on the ground to achieve the Curlew DFCs. These prescription areas have direction specifically designed to meet the goals and objectives of that prescription. Thus, the Grassland has a double-tiered approach to management; there is direction applicable to all areas of the Curlew (Chapter 3) and direction to meet specific DFCs for a particular geographic area, subwatershed, timber stand, etc (Chapter 4).
- Chapter 5 describes the plan for implementing the Grassland Plan. It contains a synopsis of the objectives we will be working to meet over the next decade. Part 2 of Chapter 5 contains the Monitoring and Evaluation section. This describes the monitoring we will do to validate the Plan assumptions; answer some of the questions that have arisen during the analysis; determine the effectiveness of standards and guidelines in meeting our desired future conditions; and measure the rate of implementation of those standards and guidelines.
- The Grassland Plan also includes a Glossary and an Index.
- Appendix A is a listing of the laws and regulations governing management of the National Forest and Grasslands. Appendix B is a list of animal species found on the Curlew and Appendix C is a list of potential revegetation plants.

Current Resource Conditions and Trends

This section briefly summarizes the state of the program areas, based on the 1999 Analysis of the Management Situation (AMS) as well as new information and direction since publication of the AMS. More information can be found in the AMS; detailed analysis is also presented in the accompanying Environmental Impact Statement (EIS) for the Curlew Amendment. The current condition of the Forest was assessed at several different levels. The Columbia River Basin Assessment looked at broad scale condition. The Forest also conducted a Properly Functioning Condition (PFC) assessment at the watershed level. In addition, there have been many assessments at the drainage level. Biological, physical, and social resources have been assessed at all of these multiple scales.

Considering national, regional and local direction, policy, and strategies for natural resource management, Forest resource professionals initiated a process to identify the "Needs for Change" in management direction on the Grassland. The process included a review of the findings of monitoring in the 1985 Forest Plan; existing legislation; and issues and concerns from project implementation and public comments for the past 12 years.

Unchanged Management Direction

Several portions of the 1985 Plan were found to be meeting management needs and do not require a change. This direction, with updated language, has been incorporated into the Revised Plan for Curlew National Grassland. The following discussion identifies this direction and provides the rationale for why management direction did not need to change. If amendments are needed to keep the Plan current, they will be completed at that time.

- Wilderness
- Heritage Resources
- Research Natural Areas
- Recreation
- Lands and Special Uses
- Utility Corridors
- Mineral Exploration and Development Access
- Noxious Weeds
- Soil Quality Standards
- Benchmarks

Overview of the AMS Findings for Grassland Resources

General Conditions

In the early 1900's, the Curlew Valley was opened to homesteading and most of the suitable flatlands were farmed. During the drought of the 1920's and 1930's, it became evident to many in the Curlew Valley that the land they owned could not provide them a living. These landowners sold their land, much of it severely eroded, to the federal government under Title III of the Bankhead-Jones Farm Tenant Act. Between 1924 and 1942, approximately 168,000 acres were purchased in and adjacent to Curlew Valley. In 1954, the Forest Service received 47,600 acres of the Land Utilization Project, and a considerable acreage adjacent to Curlew National Grassland came under the administration of the BLM or was sold back to private interests.

Livestock grazing and associated vegetation treatments have been the predominant uses on the Grassland since alteration by farming practices was stopped in the 1930's. Other uses include recreational bird watching, hunting and dispersed and developed area recreation. With changing social values, the Grassland has become a focal point for issues such as wildlife habitat and riparian area management and how they are influenced by livestock grazing and management practices. The challenge for Grassland management into the next century is balancing emerging social values, such as wildlife habitat, riparian management and recreation, with past and ongoing uses and activities such as livestock grazing and vegetation treatments.

The Grassland is representative of shrub-steppe vegetation and topography and is predominantly covered with sagebrush and non-native seeded grasses. Over 35,500 acres of native range was cultivated and farmed in the early 1900's. Under the management of the Soil Conservation Service, bulbous bluegrass, crested wheatgrass, and alfalfa were planted to reduce soil erosion and to increase forage production for cattle. Native grasses, forbs, and shrubs occupy the remaining 12,000 acres.

Riparian and Watersheds

Of the four major watersheds on the Grassland, all of them except South Fork Rock Creek have a disturbance vulnerability rating of "2." South Fork Rock Creek is rated between "2" and "3;" meaning more than 50 percent of the watershed is in sensitive lands. Geomorphic integrity rated between "2" and "3" for all the lands within the 47,600 acres administered by the Forest Service (IWWI 1998). Water quality integrity also rated between "2" and "3" overall. It should be noted that these ratings were completed on numerous smaller watersheds that make up the Grassland area. Many of these smaller watersheds have no perennial streams, therefore water quality was not determined to be "seriously degraded". Major streams within the Grassland (Deep Creek, Rock Creek, etc.) appear to have some serious water quality problems and were rated as a 3. The South Fork of Rock Creek has been determined by the State of Idaho to be Water Quality Limited under Section 303(d) of the Clean Water Act. This limiting pollutant has been identified as sediment. (See Final EIS and AMS for full discussion.)

No salmonids have been found during inventories in any of the area streams, except stocked rainbow trout in Deep Creek within and above Stone Reservoir. Only small fish, such as shiners and dace have been inventoried in limited quantities in selected reaches of some of the Grassland streams. No rare,

sensitive, threatened, endangered or proposed aquatic or fish species are known to exist anywhere within the area.

Vegetation

SAGEBRUSH

Sagebrush is the dominant vegetation cover type occupying 95 percent of the Grassland. Approximately 17 percent of the area occupied by sagebrush is in 0-5% canopy cover; 24 percent is in 6-15% canopy cover; 42 percent is in 16-24% canopy cover; and 17 percent is in greater than 25% canopy cover.¹

Basin big sagebrush is the most common sagebrush on the Grassland and occupies or potentially occupies about 75 percent of the sagebrush cover type.² Few large expanses of this type remain in the Intermountain west since it is typically found on deep soils that are sought after for farming.

About 36,000 acres, or 75 percent of the Grassland, was farmed and seeded at one time. Only about 12,000 acres, about 25 percent, now support native vegetation on fragmented islands of uneven topography and steep slopes. However, livestock grazing and the lack of natural fire cycles have drastically altered these acres. According to the vegetation PFC findings, the sagebrush on the Grassland is functioning-at-risk. This is because the sagebrush is skewed toward older age classes, reduced understory composition and production as well as reduced watershed conditions.

MOUNTAIN BRUSH

Approximately 3 percent of the Grassland supports mountain brush habitat types. Mountain brush is characterized by tree/shrub species such as chokecherry, serviceberry, currant, mountain snowberry, elderberry, and wild rose intermingled with sagebrush in the overstory. A variety of herbaceous understory species provides needed ground cover to help maintain watershed values.

According to the vegetation PFC findings, the mountain brush on the Grassland is in properly functioning condition but is trending towards late seral stages due to interrupted fire regimes.

UTAH JUNIPER

Utah juniper comprises less than 90 acres (0.2%) on the Grassland. On the Grassland, juniper has not encroached into adjacent cover types. The distribution of structural age classes is skewed toward mid and older ages. Utah juniper is considered within historical patterns of size, shape and corridors.

SALT DESERT SHRUB

Salt desert shrub comprises about 150-200 acres (0.3%) of the Grassland and is found northeast of the Curlew Campground. Understory vegetation is generally sparse. An understory of bulbous bluegrass, squirreltail, and bur buttercup is present.

QUAKING ASPEN

Quaking aspen appears on an estimated five acres (0.01%) of the Grassland. It is found in isolated clones in the Salyer and Twin Springs areas. These sites are considered at the edge of their ecological range due to sustained high summer temperatures and semiarid conditions.³

¹ Unpublished data on file at the Westside Ranger District, Caribou National Forest.

² Collins, P.D. and Harper, K.T. 1982. "Habitat Types of the Curlew National Grasslands, Idaho." Department of Botany and Range Science, Brigham Young University. Provo, Utah. 47 pgs. +exhibit.

NOXIOUS WEEDS

Documented weed species include Canada and musk thistle, black henbane and diffuse knapweed. Direction for noxious weed management is provided in the most current Caribou-Targhee Noxious Weed Strategy and the Caribou Noxious Weed EA.

Wildlife

The Curlew Valley has been identified as an “Important Bird Area” in the state of Idaho (Svingen, 1997). The valley, with its mix of sagebrush grassland, Conservation Reserve Program plantings (CRP), and agricultural lands, provides habitat for sharp-tailed and sage grouse and other sagebrush associated species. Three non-native bird species, pheasant, Hungarian partridge and chukar, are found on the Grassland. They were introduced by the State of Idaho to enhance hunting opportunities in the Curlew Valley. The Sweeten Pond area is fenced to exclude livestock grazing. A wide variety of waterfowl including Canada geese, ruddy ducks, pintail, mallard and teal may be found loafing, feeding and nesting on or adjacent to the ponds.

THREATENED, ENDANGERED AND PROPOSED SPECIES

Except for undocumented reports of bald eagles, no Threatened, Endangered, or Proposed species have been found on the Grassland. During the 1999 field season, a survey of potential habitat for Ute ladies'-tresses (*Spiranthes diluvialis*) was completed for the Grassland with no populations of Ute ladies'-tresses or other look-alike orchids being found.

SENSITIVE SPECIES

Of the Caribou National Forest's 19 sensitive species, only one is **known** to occur on the Grassland - the Columbian sharp-tailed grouse.

Columbian Sharp-tailed Grouse

Columbian sharp-tailed grouse have undergone a significant range-wide decline; the species currently occupies less than 10 percent of its former range. Many remaining populations are small and widely separated from other populations. Idaho has the best remaining populations, with 75 percent of the remaining birds (Paige and Ritter 1999). In southeastern Idaho, the largest concentrations of sharp-tailed grouse are in Fremont, Bonneville and Oneida counties (Ulliman 1995). Idaho Fish and Game has been transplanting sharp-tailed grouse from the Grassland to other states for the past 12 years.

MANAGEMENT INDICATOR SPECIES (MIS)

Riparian

Riparian systems on the Grassland have been impacted by past activities and most of the reaches do not support healthy riparian vegetation. No baseline surveys have been completed and no one species stands out as a potential MIS. Because of this, breeding birds will be used as indicators of species richness.

³Jones, J.R., Kaufmann, M.R., and Richardson, E.A. 1985. "Effects of Water and Temperature." In: *Aspen: Ecology and Management in the Western United States*. USDA Forest Service General Tech. Report, RM-119. Pg. 71-76.

Sagebrush

Several species of birds depend on sagebrush or are sagebrush obligates. These include the sage grouse, sage thrasher, Brewers sparrow and sage sparrow, all of which are or are expected to be present on the Grassland (Groves, *et al*, 1977). The sage grouse, described below, has been identified as a MIS for sagebrush.

Sage Grouse

Available data indicate sage grouse (*Centrocercus urophasianus*) have declined throughout their range. Long-term data from nine western states show breeding populations have declined from 17 percent to 47 percent from the long-term average. One doctoral dissertation has addressed sage grouse ecology on and adjacent to the Grassland (Apa 1998). Data from the Apa study indicate the sage grouse population on the Grassland is non-migratory⁴ and the available habitat is non-uniformly distributed (Apa, pers. comm.). Establishment of exotic perennial grasses has resulted in a decline in native, herbaceous understory diversity which has been identified as essential for nesting and brood-rearing sage grouse.

SPECIES AT RISK (SAR)

Riparian

Riparian and wetland habitats have been greatly modified by farming, livestock grazing, water diversion, spring diversion and drilling of water wells. Information on historical or current riparian vegetative conditions is very limited. While some surveys included vegetation information, no analysis has been completed of the potential of the stream reaches to support willow communities.

Species at risk (SAR) that have been identified for riparian habitats include the calliope hummingbird, willow flycatcher, black-billed magpie, MacGillivray's warbler, Scott's oriole, pallid bat and *Yuma myotis*. All of the bird species rely on riparian shrub communities for nesting (Ehrlich, *et al*, 1988, Groves, *et al*, 1997).

Sagebrush

The species at risk (SAR) that are associated with sagebrush habitat are associated with varied habitat structures. Loggerhead shrikes do not appear to be tied with specific canopy closure of sagebrush, but build their nests in the shrubs. Short-eared owls and long-billed curlews use the more open sagebrush types (0-5 percent canopy cover) that are dominated by grasses. Both of these species are listed as breeding in the Grassland (Stephens and Struts, 1997). Currently, 17 percent of the Grassland's sagebrush habitats are in the 0-5 percent canopy cover class and may provide habitat for these species.

Sage grouse (previously discussed) and pygmy rabbits are associated with greater shrub densities (greater than 15 percent canopy cover). Pygmy rabbits are associated with sagebrush stands in deep soils, with a tall, dense structure and high percent woody cover. The Grassland is within the expected distribution of pygmy rabbits, but the historical and current distribution is not known. Currently, 59 percent of the Grassland sagebrush habitats are in the greater than 15 percent canopy cover class and may provide habitat for this species.

⁴ **Non-migratory** means average movement of sage grouse is less than or equal to ten kilometers(Connelly, *et al*, in press.)

Human Uses and Values

Oneida County is rural, sparsely populated, and has a relatively large proportion of its population living on farms. Malad City is the county seat. Largely because of its small population, Oneida County has been identified as an area of low socio-economic resiliency.⁵ Recreationists look to the Grassland as a venue for recreational activities like wildlife-viewing and camping. Some of these activities, such as upland game hunting and bird-watching on the sage grouse and sharp-tailed grouse strutting grounds, are highly specialized.

WATER USES

Water is limited throughout the area. Agriculture and grazing are the primary uses of the water within the area. Live water occurring within the area is generally tapped and diverted to agricultural fields or used to water livestock.

RECREATION AND HUNTING

Recreation on the Grassland includes hunting, wildlife viewing and snowmobiling. Hunting upland birds, rabbits, waterfowl and deer are popular pursuits. Since much of the dispersed recreation is dependent on wildlife, use patterns follow the ups and downs of these populations. Based on Forest Service observations, hunter numbers appear to be static on the Grassland. Bird watching, especially on the sage and sharp-tailed grouse strutting grounds, grows in popularity annually. In March and April of 1997, over 150 people spent 2 to 4 hours watching the birds "dance." The numerous leks, or dancing grounds, are generally found in open areas adjacent to sagebrush cover throughout the Grassland.

Some motorbike and All Terrain Vehicle (ATV) use occurs on primitive roads. Off-road vehicle restrictions currently limit this use to designated routes from September 1 to November 30 for prevention of soil erosion and wildlife protection during fall bird hunts.

Twin Springs Campground and the Curlew Campground and Group Area are the only developed recreation sites on the Grassland. Use at Twin Springs remains moderate, except during the fall hunting season when use increases. Camping and group use at Curlew Campground is high. Adding 8 camping units in 1992 and a new group area in 1998 have helped to meet local camping demand. The site is adjacent to Stone Reservoir (owned by the local irrigation district) and is popular for boating, fishing and ice fishing.

Sweeten Pond offers waterfowl viewing and has a small parking lot. The site could be developed as a watchable wildlife area with blinds and interpretive material. It is fenced to protect it from livestock grazing and is maintained by the Forest Service. This site and others on the Grassland provide good interpretive opportunities for wildlife.

TRANSPORTATION

The Grassland and surrounding area support 76 miles of roads that provide good access. Highway 38 from Malad and the highway from Snowville, Utah (Highway 37) meet at Holbrook and extend to American Falls and to Interstate 86 via Rockland Valley. They serve as the major highways through the Grassland. Motorized travel on the Grassland is restricted to designated routes from September 1 to November 30 during the fall bird hunts. A *Roads Analysis* for the Curlew National Grassland was completed in the Fall of 2001.

⁵Quigley, Thomas M.; Haynes, Richard W.; Graham, Russell T., tech.eds. 1996. Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin and Portions of the Klamath and Great Basins. Gen. Tech. Rep. PNW-GTR-382. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

LIVESTOCK GRAZING

The Curlew Valley Cattle and Horse Association, comprised of 21 members, is permitted to graze 2,454 cow/calf pair from April 16 to November 30. The members of this association are required to own base property in Curlew Valley. The association manages the allotment by grazing five groups of cattle that rotate through 37 fields on a deferred-rotation basis. None of the pastures are grazed more than once per season.

The Buist Fields Association, comprised of eight members, is permitted to graze 862 cow/calf pairs from April 25 to July 9 and from November 1 to November 30 each year. The association manages the allotment by grazing three groups of cattle through twelve pastures on a deferred-rotation system.

Summary of Trends for the Grassland

- Sagebrush is trending toward more dense canopy covers, resulting in a lack of understory diversity, reduced herbaceous production and watershed condition due to losses of ground cover.
- Non-native seedings have simplified species composition, reduced biodiversity, changed species interactions, and in some situations, reduced wildlife habitat quality and forage availability.
- Mountain brush sites occupy three percent of the Grassland and provide a unique niche for associated species. Although mountain brush has been assessed as meeting Properly Functioning Condition, fire return intervals and suppression efforts are jeopardizing the condition of these areas.
- Within the Grassland, the primary water quality problems are sedimentation, nutrient loading, flow alteration and high temperatures.
- Stream channels and associated riparian areas have undergone considerable adjustment (downcutting, lowering water tables and confining of riparian areas within downcuts), as a result of some land management practices, and some are now restabilizing at a different evolutionary state. Some can never be restored to historical levels or conditions.
- Water impoundments have increased riparian and wetland extent.

Needs for Change

The AMS determined the need to establish or change the current management direction on the Curlew National Grassland. The AMS assessed the current situation, determined the capability of the Grassland resource base to produce goods and services, and identified public issues and management concerns. The following Needs for Change were identified in the AMS:

Soil

- Develop and implement soil restoration direction for the Grassland.
- Collaborate with area farmers, ranchers, Soil Conservation Districts, Natural Resource Conservation Service, on lands adjacent to the Grassland to encourage soil conservation and to restore riparian areas.

Terrestrial Ecosystems

- Establish a balanced multi-aged mosaic of sagebrush communities through regular, planned treatments.
- Maintain levels of forage productivity that will assist dependent grazing permittees while improving wildlife habitat quality.
- Develop management direction which moves vegetation towards the goals, maintains diverse shrub communities, watershed conditions, and reduces threats to private property and large acreages.
- Develop and implement direction to restore, maintain, and improve habitats for sagebrush associated/obligate wildlife species, including sage grouse. This also includes assessments of habitat fragmentation and connectivity.
- Develop direction and implement a schedule for treatment of those areas with an undesirable understory composition (i.e. bulbous bluegrass) to establish a diverse and desirable grass, forb and shrub composition.
- Develop and implement grazing utilization standards for both seeded and native vegetation types which takes into consideration other resource values and needs.
- Clarify prescription direction to insure the proper future application of prescriptions with respect to future uses and resource values.

Aquatic Ecosystems

- Develop strategies and implement direction to protect and improve riparian areas, wetlands and stream channels.
- Develop a schedule that implements watershed, riparian, wetland and stream channel improvement strategies and direction.

Inventory and Research Needs

- Inventory (Level II) of all perennial stream reaches to identify existing vegetation and the potential natural community.
- Inventory of current suitable sage grouse habitat, including nesting, brood-rearing and winter.
- Develop monitoring strategies and/or research projects to answer the following questions that have arisen throughout the planning process.
 - Are tree rows providing habitat for predators and decreasing sage grouse nest success?
 - Are pygmy rabbits present on the Grassland, and how has past and current management affected their distribution?
 - Is the subspecies of sagebrush important in selection of nesting sites for sage grouse?
 - What is the correlation between livestock utilization levels and residual vegetation?

Issues, Concerns and Opportunities

Issues were identified through public comments received on the Initial AMS and from scoping on the Proposed Action. Comments were grouped into categories and then the IDT further refined and clarified the issues. The issue statements were written in an attempt to be unbiased and to show conflicts. Issue indicators have been designed to be quantitative, where possible, measurable, predictable, responsive to the issue, and linked to cause-effect relationships.

Riparian and Watershed Management

ISSUE

Watershed conditions on portions of the Grassland are below potential and need to be improved through protection of natural soil protection features including microbotic⁶ crusts (mosses, lichens, cyanobacteria, cryptogams and liverworts) and reestablishment of protective perennial vegetation and litter. Many stream channels and riparian areas on the Grassland have been degraded and need to be improved to attain properly functioning condition and meet State and Federal water quality standards.

RESOLUTION

The Grassland Plan resolves these issues by fencing five miles of “at-risk” streams and placing all other perennial streams in riparian pastures. The Plan establishes livestock use levels based on properly functioning condition status of the streams. Along with direction for maintenance of soil productivity, microbotic crusts, and perennial vegetation, this Plan allows for projects which will improve understory diversity which will improve overall watershed conditions.

Vegetation and Wildlife Habitat Management

ISSUE

Sagebrush Canopy Cover

Some commenters advocated a reduction in sagebrush canopy cover to maintain/increase forage production (sagebrush canopy less than 15 percent). Other commenters advocated that sagebrush canopy cover is currently not adequate to meet sage grouse nesting and wintering habitat needs (sagebrush canopy greater than 15 percent). Still others advocated that sagebrush canopy cover should be managed for properly functioning condition (10-30 % of sagebrush acres in 0-5 percent canopy cover; 40-60 % of sagebrush acres in 6-15 percent canopy cover; 30-50 % of sagebrush acres in greater than 15 percent canopy cover).

⁶ **Microbotic crusts** are formed by living organisms and their byproducts, creating a surface crust of soil particles bound together by organic materials. They are composed of Cyanobacteria (formerly blue-green algae), green and brown algae, mosses and lichens. Liverworts, fungi, and bacteria can also be important components.

Mountain Brush Management

Some commenters advocated that mountain brush communities (serviceberry and bitterbrush) be preserved or maintained at current densities and conditions for nesting upland species and big game. Some people contended mountain brush communities should be managed in a healthy matrix (multiple ages and structures) using whatever tools are appropriate. Historically these vegetation types have been managed with prescribed fire, chaining and herbicides.

Sagebrush Understory Composition

Bulbous bluegrass is a non-native, sod-forming species which provides for watershed stability. However, bulbous bluegrass has low value for wildlife habitat and livestock forage. Some commenters advocate bulbous bluegrass should be replaced with more desirable species. Some commenters advocated that treated areas should be reseeded with native grasses, forbs and shrubs (primarily sagebrush) to benefit wildlife. Historically, treatments have been reseeded with non-native species (primarily crested wheatgrass) to assure vegetation establishment, provide livestock forage, and provide nesting cover for upland birds.

Wildlife Habitat

Sagebrush communities in the Curlew Valley have been converted to other uses resulting in habitat fragmentation and reduced connectivity for sagebrush dependent and associated species. The size and location of future vegetation treatments within the Grassland have the potential to further affect connectivity and fragmentation. Some commenters advocated that sagebrush treatments should be "small scale" (less than 20 acres) to reduce the impacts to wildlife species (including sage grouse) and promote re-establishment of sagebrush. Historically, sagebrush treatments have been on the scale of hundreds of acres (fields) for efficiency.

Some commenters contended that the current use level (about 60 percent) provides sufficient forage for the current stocking levels and sage grouse and sharp-tailed grouse nesting habitat. Others contended the use level is too high and should be reduced to provide higher quality sage and sharp-tailed grouse habitat.

Prescribed fire is currently used to meet a variety of resource objectives. Some commenters contended that the use of prescribed fire is inappropriate for sage grouse habitat management. Others contended prescribed fire is the preferred tool to meet resource objectives.

Grassland management has the potential to affect native and desired non-native wildlife population viability. Some commenters contended that tree rows harbor sage grouse predators. Others contended that tree rows provide other values including wildlife habitat.

RESOLUTION

The Grassland Plan contains objectives to maintain the current percentage of acres in the higher canopy cover classes over the next decade. During this time, we will initiate monitoring and evaluation programs to better understand the relationships between vegetation community structure and wildlife habitat. Riparian areas will be corridor fenced or fenced into riparian pastures to speed improvement. This will improve wildlife habitat, particularly for breeding birds. Sagebrush management is designed to improve understory diversity and structural diversity of the overstory. Livestock utilization levels will be lower in areas important for sage grouse nesting habitat while heavier where needed to maintain plant vigor. The Plan calls for using established protocols for monitoring utilization, wildlife habitat features, effectiveness of treatments, and many other factors.

Social and Economic Factors

ISSUE

Economic and Social Values

Changes in Grassland management may have social and economic effects such as impacts on jobs, income, and county revenues. Most commenters felt that the cost of maintaining a level of head-months should be justified by the monetary benefits. The cost of bulbous bluegrass treatments should be justified by the monetary benefits.

Reserves/Preserves

Several commenters advocated managing a significant portion of the Curlew National Grassland as a "reference reserve" or a "fish, wildlife & plant preserve." Currently most of the Grassland is managed for a variety of uses including livestock grazing. A small portion of the Grassland is currently managed exclusively for wildlife (Sweeten Pond area & tree rows) and no livestock grazing is allowed.

Livestock Grazing

Some commenters contended that current livestock grazing utilization levels are adversely affecting the sustainability of plant communities, and watershed stability. Others contended that the current livestock grazing utilization levels (about 60 percent) is providing for sustainable plant communities and other resource values.

RESOLUTION

The Grassland Plan resolves the social and economic issues by maintaining livestock numbers at or near current levels while still providing for improvement in the vegetation resources by reducing actual utilization levels. Riparian areas will be corridor fenced or fenced into riparian pastures to speed improvement but still allow limited grazing. This will help maintain the economic stability of the area. Sweeten Pond will remain closed to livestock and be managed as a designated special wildlife area.

DFC's, Goals, Objectives, Standards and Guidelines

The desired conditions and direction are organized by resource groupings. First, the desired future conditions for each resource area are described, if there are any. These are long-term conditions for the Grassland to achieve in the next century or so. The condition of terrestrial and aquatic ecosystems is addressed through the desired future conditions (DFCs) that deal with rangeland vegetation cover types, structures, disturbance patterns, and wildlife habitats; and with watershed processes, riparian conditions, and aquatic species habitats. The desired future conditions is a vision of the long-term condition of the land, portrayed in this document as a range of conditions expected to result in 50 to 100 years if objectives are achieved.

From the DFCs, we have formulated Grassland management goals, which we anticipate reaching in this planning period (10-15 years). For some resources, objectives are provided which will help measure our progress towards the goals and DFCs. Following the goals and objectives, the specific standards and guidelines for management are presented. As directed by the R1/R4 Regional Planning Framework, this Plan focuses more on where we want to be going (DFCs, goals and objectives) rather than the traditional focus on how we are to get there (standards and guidelines). The standards and guidelines in this section of the Plan are common to the entire Grassland.

- Desired Future Conditions are long-term visions of what the land should look like under a given management direction.
- Goals are expressed as long-term outcomes of management activities.
- Objectives are expressed as specific actions that include a timing component for completion, generally defined in terms of the Record of Decision for the Plan.
- Standards are used to promote the achievement of the desired future condition and objectives and to assure compliance with laws, regulations, Executive Orders or policy direction established by the Forest Service. Standards describe a condition of land, normally a maximum or minimum condition, which is measurable. A standard can also be expressed as a constraint on management activities or practices. Deviation from compliance with a standard requires a Forest Plan amendment.
- Guidelines are used in the same way as standards but tend to be operationally flexible to respond to variations, such as changing site conditions or changed management circumstances. Guidelines are a preferred or advisable course of action, and generally they are expected to be carried out. Deviation from compliance with a guideline does not require a Forest Plan amendment, but the rationale for such a deviation is documented in the site-specific project decision document.

Many of the goals, objectives, standards and guidelines use the terms “maintain” and “restore”. In the context of this Plan, it is understood that those resources that are in satisfactory condition will be maintained and those that are not in satisfactory condition will be restored.

In Chapter 4, Management Prescriptions, management direction in the form of goals, objectives, standards and guidelines are provided for each management prescription. In land areas where prescriptions are applied, direction in this section would over-ride grassland-wide direction. If the prescription direction is silent, then grassland-wide goals, objectives, standards and guidelines apply.

The existing body of national direction for managing National Forests remains in effect. The standards and guidelines presented herein provide direction more specific to the needs of the Curlew National Grassland. A summary of national program and regional policy and goals can be found in Appendix A. The direction from the references cited in Appendix A is incorporated herein and this direction will not be repeated in the Plan.

If an emergency event occurs on the Forest, deviation from the standards and guidelines may occur in order to protect human life, property values and structures, and forest resources. Activities in response to emergency events include such things as law enforcement, search and rescue, floods and fire.

Ecological Processes and Patterns

General Ecological Conditions

Desired Future Condition

- ! The landscape displays an interconnected balance of physical landscape components, including upland terrestrial habitats, riparian areas, wetlands, and clean water.

Goals

1. Maintain or restore vegetation, soil and watershed resources.
2. Management strategies are used to restore ecological integrity, productivity and sustainability over time.
3. Adaptive management strategies are used to gain understanding during project implementation.

Objective

1. Within 10 years after signing the Record of Decision (ROD), reassess Vegetation Properly Functioning Condition of ecosystems on the Grassland and adjacent areas, to determine if resources are moving toward Desired Future Conditions.

Insects And Disease

Desired Future Condition

- ‡ Insects and disease are allowed to play their natural role in ecosystem dynamics to the extent compatible with other resource objectives or adjacent land use.

Guideline

1. Grasshopper and Mormon cricket management is carried out under the most current EIS for the Rangeland Grasshopper Cooperative Management Program in cooperation with USDA Animal and Plant Health Inspection Service, Plant Protection and Quarantine (APHIS-PPQ) personnel.

Fire/Fuels

Desired Future Conditions

- ‡ Wildland fire is actively suppressed, using the appropriate management response, to protect public safety and resource values.

Goals

1. Suppress fire in a safe, cost effective manner where necessary to protect human life and safety, developments, structures, and sensitive resource values.
2. Coordinate fuel and vegetation management strategies with local governments, tribes, agencies, landowners to reduce the risk from wildland fires.
3. Identify areas where prescribed fire is limited, inappropriate, or undesirable. Implement other management actions that reduce the undesirable effects of wildland fire.
4. Use prescribed fire, alone or with other management activities to restore or maintain desirable vegetative communities and ecosystem processes.

Standard

1. Fire is aggressively suppressed to protect public safety as necessitated by the intermixed land ownership pattern.

Guidelines

1. During wildland fires minimize impacts on resources while achieving suppression goals.

Physical Elements

Soils

Desired Future Conditions

- | Most soils have at least minimal protective cover and soil organic matter, including microbiotic crusts. Soils have adequate physical properties for vegetation growth and hydrologic function.
- | Soil quality, productivity and function are maintained or restored where needed.
- | Soil hydrologic function and productivity in riparian areas is protected. Water quality buffering and regulation of nutrient cycling is maintained.

Goals

1. Soil resource conservation efforts are developed in collaboration with adjacent landowners, Soil Conservation District and Natural Resource Conservation Service.
2. Protect soil hydrologic function by maintaining or restoring ground cover, soil organic matter, and biological soil crusts.

Standard

1. Do not allow resource developments and utilization of lands identified in the Soil Resource Inventory as not capable of sustaining such impacts.

Guidelines

1. Management activities are within the capability of the soils to sustain such activities as described in the soil resource inventory.
2. Maintain fine organic matter that would protect the soil from excessive erosion and provide nutrient cycling.
3. Detrimental soil disturbance caused by management practices should not exceed 15 percent of an activity area except when treating bulbous bluegrass.
4. In areas where biological crusts are integral to meeting ground cover requirements, maintain or restore them by reducing impacts during the early spring (USDI 2001).

Air Quality

Desired Future Condition

- ‡ Air quality complies with Clean Air Act and other state requirements for Utah, Wyoming and Idaho.

Goal

1. Manage air quality to meet health and safety requirements and existing laws, rules, regulations and agreements.

Standards

1. Comply with the Montana/Idaho Smoke Management Plan.
2. All management ignited fires will comply with the Clean Air Act, along with rules, regulations and procedures required by the Idaho Department of Health and Welfare, and Idaho Department of Environmental Quality.

Guidelines

1. Follow clearing/mixing height index guidelines when implementing ground disturbing management practices such as prescribed burning to reduce regional haze and maintain visibility.
2. Minimize smoke emissions during project activities.

Water Quality

Desired Future Condition

- ‡ Water quality will be protected and maintained where State and Federal water quality standards are being met and improved or restored where quality does not meet Federal or State rules, regulations or policies.

Goals

1. Protect waters meeting or surpassing State water quality standards.
2. Design land management activities so that existing levels of water quality and beneficial uses are maintained.

3. Proactively address all impaired waterbodies on the State of Idaho's EPA approved 303(d) list.
4. Assist in the development of, and implement, Implementation Plans for 303(d) listed waterbodies.

Objective

1. Proactively address all impaired waterbodies within 5 years, subject to funding and State schedules.

Standard

1. Within legal authorities, insure that new or proposed management activities within watersheds containing 303d listed water bodies maintain or improve overall progress toward beneficial use attainment for pollutants which led to listing, and do not allow additions of these pollutants in quantities that result in unacceptable adverse effects.

Guidelines

1. Work with the State of Idaho's 2-year cycle to determine if the 303(d) waterbodies are correctly listed or have been restored adequately to provide designated beneficial uses.
2. New projects within watersheds containing 303(d) listed waterbodies should be supported by the appropriate scale of analysis and collaboration with appropriate Federal, State, Tribal and Local Agencies, organizations and individuals.
3. New project proposals analyzed under the National Environmental Policy Act (NEPA) should consider the 11 questions outlined in the Idaho Nonpoint Source Management Plan to achieve Federal consistency with the Idaho Nonpoint Source Management Plan and the Clean Water Act as implemented by the State of Idaho.

Lands

Goals

1. Adjustments in landownership are made through sale and/or exchanges to facilitate administration of Federal lands.
2. Utility corridors are minimized to reduce fragmentation.
3. Public lands are easily accessible. Road management follows the latest Roads Analysis for the Curlew.

Standards

1. Land acquisitions, exchanges, and right-of-ways will be in compliance with current National policy and for the purpose of consolidation and improving management.
2. Allow for essential access for repair and maintenance of facilities within energy corridors.
3. Bury all new utility lines of 50 Kv or less.

Guidelines

1. Consolidate facilities within existing energy corridors, where practical.
2. Proponents of new facilities within existing corridors, must demonstrate clearly that the proposal is in the public interest, and that no other reasonable alternative exists to public land routing.
3. Allow special uses that can be coordinated with other resources, and establish and maintain current appraisal data and user fees for all Special-Use Permits.
4. Acquire access (right-of-ways) through State, and other Federal agency and private lands to the Grassland boundary, as needed, for administration, management, and protection of Forest Service lands or for public access, as described in the Roads Analysis for the Curlew.

Minerals And Geology

Desired Future Conditions

- ‡ Mineral resources are available for development, consistent with other resource uses.
- ‡ Paleontological resources are properly managed to provide for preservation and use of these resources for current and future generations.

Goals

1. The use and protection of other resource values is integrated with the exploration and development of mineral and energy resources on the Grassland, including oil and gas.

Standard

1. The Grassland is open to exploration and development and production of locatable, solid leasable and mineral material resources. If significant interest in oil and gas leasing develops complete an EA/EIS for oil and gas leasing and amend the CNG Plan.

Guidelines

1. Common minerals – give priority to the use of currently developed common mineral (natural gravel and hard rock) material sources over new undeveloped sources. Exceptions should be made when existing sources are unable to economically supply the quality and quantity of material needed or when conflicts with other resource uses are found to be unacceptable.
 2. When analyzing mineral development proposals, provide safeguards to protect surface resource values.
-

Biological Elements

Terrestrial Ecosystems--Vegetation

Desired Future Conditions

- ‡ Management is proactive to avoid introduction or spread of exotic and noxious weeds.
- ‡ **Rangelands** reflect a mosaic of multiple-aged shrubs, forbs, and grasses with emphasis on maintaining or recreating diverse plant communities. Rangelands are functioning to maintain life form diversity, production, nutrient cycling, energy flow, and the hydrologic cycle.
- ‡ Vegetation management treatments maintain or diversify the mosaic of shrub steppe plant communities while reducing habitat fragmentation. Most of the altered sagebrush steppe has also been diversified by the addition of various desirable grasses, forbs, and shrubs, including native species.
- ‡ Stability of sand dunes and old Lake Bonneville terraces is maintained. Mountain brush vegetation is trending toward a late seral ecological status.

Goals

1. Emphasize the retention of native vegetation where it currently exists.
2. Use vegetation management in achieving a broad array of multiple-use and ecosystem management objectives, including maintenance, improvement, and restoration of scenery, wildlife habitat, biological diversity, riparian and watershed condition, and vegetation structure, composition and distribution.
3. Treat bulbous bluegrass dominated sites and revegetate with desirable native and/or non-native species.
4. Seedings maintain or enhance understory diversity and production to meet livestock grazing, wildlife, watershed and other resource values.

5. Sagebrush is managed to maintain current levels of sagebrush in the >15% canopy cover class--about 60% of the Grassland. Emphasis will be on creating and maintaining areas suitable for sage grouse nesting habitat over the long term.
6. Provide necessary protection and management to conserve listed threatened, endangered and sensitive plant species.

Objective

1. Treat 12,100 acres of sagebrush over the next ten years. See Prescription 6.5: Rangeland Vegetation and Upland Bird Habitat Management.

Standards

1. Information on the presence of listed threatened, endangered or sensitive plant species will be included in all assessments for vegetation and/or ground disturbing management activities. Appropriate enhancement, protection and mitigation measures will be applied to the management activities.
2. Invasive species such as noxious weeds will be treated to contain or control as appropriate using IPM methods and following the most recent version of the Caribou-Targhee Noxious Weed Strategy.
3. Do not allow plowing in areas identified on the map as “No Till” areas. Other methods of treatment may be permitted after site-specific analysis.
4. Conduct a risk assessment for all sagebrush herbicide treatments, including aerial applications, using the most current Multi-Regional Risk Assessment.
5. Areas where threetip sagebrush (*Artemisia tripartita*), rabbitbrush, and horsebrush have canopy cover values of greater than 5 percent will be carefully evaluated before treatment due to their ability to sprout after disturbance.
6. Do not seed non-native grasses in existing native vegetation unless it is necessary to meet other resource objectives, such as eliminating cheatgrass invasion.

Guidelines

1. Emphasize native plant species where they would meet the desired resource conditions. Introduced species may be used in project seedings: (1) where native species would not meet the objectives of erosion control, such as in high use or impact areas, and where the effects on local, native flora is minimal; (2) on sites that are currently dominated by introduced species and the use of non-native species has not degraded the adjacent native flora; (3) on sites where the management objective is to use non-native species in one area to prevent degradation of other natural areas; or (4) when native seed is unavailable or cost prohibitive.

2. Consider adjacent land use during site-specific project analysis and maintain vegetative buffers needed to provide wildlife habitat.
3. Conduct vegetation manipulations emphasizing desired ecological and multiple-use outcomes in a cost effective matter.
4. Maintain unique or difficult-to-replace elements or habitats such as salt desert shrub, aspen, and juniper.
5. Maintain existing tree rows for wildlife habitat.
6. Prioritize bulbous bluegrass treatments in areas that are not meeting wildlife, soil, and vegetative desired future conditions.
7. Consult with the Regional Ecologist when designing restoration treatments and monitoring protocols for bulbous bluegrass projects.

Fisheries, Water, And Riparian Resources

- ‡ Watersheds provide for natural infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform. Riparian/wetland vegetation structure and diversity are making substantial progress toward controlling erosion, stabilizing stream banks, shading water areas, filtering sediment, aiding in floodplain development, dissipating energy, delaying flood water, and increasing recharge of groundwater.
- ‡ Stream channels, riparian areas, and floodplains are functioning properly relative to the landscape, including gradient, size, shape, roughness, confinement, and sinuosity, and climate. In-stream water uses are protected and the level of water quality is improved.
- ‡ Roads exist in riparian areas only where needed for major public transportation thoroughfares, where they do not cause problems to aquatic and riparian resources, or where there are no other practical alternatives.
- ‡ Riparian areas are dominated by deep-rooted vegetation that contain a mixture of age-classes, such as sedges and hydric grasses, willows, cottonwoods, and deciduous trees, depending on the landform, stream substrate, and gradient.

Goals

1. Emphasize holistic watershed planning efforts. Coordinate with other land management agencies, organizations, and landowners, within and adjacent to the Grassland, to promote ecosystem-scale management, protection and restoration.
2. Maintain or restore stream channel integrity, channel processes and the sediment regime (including the elements of timing, volume, and character of sediment input and transport) within the capabilities of the channel system.

3. Maintain or restore habitat to support populations of native and desired nonnative plant, vertebrate, and invertebrate populations that contribute to the viability of riparian dependent communities.

Objective

1. Establish an upward trend on all perennial riparian systems within the next decade.

Standards

1. To protect other resource values, minimum instream flows will be required by the Forest Service in the event of a new application to develop a small hydropower project.
2. Streams identified as being in riparian Properly Functioning Condition will be maintained in that condition.

Guidelines

1. Limit roads in riparian areas to those needed for major public transportation where they do not cause damage or where no practical alternatives exist.
2. When applying herbicides aerially, maintain a 100-foot buffer on all streams.

Terrestrial Ecosystems—Wildlife Habitat

Desired Future Conditions

1. Habitats contain sufficient complexity, diversity, and productivity that they can maintain viable populations of native and desirable non-native species. Native wildlife species are present in amounts and distribution similar to historic patterns including species that were once listed, or proposed for listing, as threatened or endangered under the ESA, or listed as sensitive by the Regional Forester.

GENERAL WILDLIFE HABITAT

Goals

1. Provide habitat that contributes to State wildlife management plans.
2. Maintain or restore habitats for healthy, productive, and diverse native and desired non-native wildlife populations.
3. Proactively manage habitats for sensitive species to preclude from listing under the Endangered Species Act. Manage habitats to assist with recovery of threatened, endangered and proposed wildlife and fish populations.
4. Promote opportunities for additional wildlife viewing and interpretation.

5. Protect, restore, enhance and manage habitat of migratory birds and prevent the further loss or degradation of remaining habitats (USFWS/FS MOU 2001).

Standard

1. The habitat requirements of management indicator species (MIS) will be considered in all resource development projects. The MIS for sagebrush habitat is sage grouse and for riparian/wetland areas is a breeding bird complex.

Guideline

1. Desired non-native wildlife species should be retained in the Grassland where not in conflict with other resource objectives.

SAGEBRUSH HABITATS

Goal

1. Manage sagebrush community habitats to reduce fragmentation and maintain or restore connectivity at the Grassland level.

Objective

1. Assess the changes to sagebrush habitats in the Greater Curlew Valley, including canopy cover, adjacent land use, understory conditions, every five years. Coordinate this effort with the Natural Resource Conservation Service and Greater Curlew Valley Sage Grouse Local Working Group.

Guidelines

1. Identify and maintain those habitats that have sagebrush with native understory vegetation.
2. Manage for a mosaic of age and structural sagebrush communities across the Grassland in patches of at least 320 acres.

SAGE GROUSE AND COLUMBIAN SHARP-TAILED GROUSE

Goals

1. Habitat conditions on the Grassland contribute to sustaining populations of sage and Columbian sharp-tailed grouse in the Greater Curlew Valley.
2. Continue coordination with the Greater Curlew Valley Sage Grouse Local Working Group and other interested parties to manage sage grouse populations on the Curlew National Grassland.
3. Maintain and increase, where possible, the distribution and abundance of sage grouse.

Objectives

1. Build a blind for lek observation by 2005.
2. Develop a map in cooperation with Idaho Department of Fish and Game to identify functional and degraded breeding habitat and winter habitat within two years of signing the Record of Decision.

Guidelines

1. Management activities will consider proximity to active lek locations during site-specific project planning.
2. If management actions would impact courtship, limit physical, mechanical and audible disturbances within the breeding complex during the breeding season (March – May) within three hours of sunrise or sunset.
3. Where management actions may disturb nesting grouse, avoid manipulation or alteration of vegetation during the nesting period (May-June).

RIPARIAN HABITATS

Desired Future Condition

- 1. Aquatic habitats contain sufficient complexity, diversity, and productivity that they can support viable populations of native and desirable non-native species.

Goal

1. Maintain and/or restore riparian ecosystems to support populations of associated wildlife and fish species.

Objective

1. Map stream reaches and identify existing and potential willow shrub communities within two years of signing of the Record of Decision.

Guideline

1. Surveys for the presence of amphibians should be completed prior to development of springs, riparian areas and wetland complexes. Developments should maintain suitability for use by amphibians.

Forest Use and Occupation

Tribal Coordination

Desired Future Conditions

- | Tribal treaty rights and other Federal trust responsibilities are met. Tribal governments are involved in Federal agency planning, decision-making, and implementation of programs.
- | Agencies recognize the tribes' right to self-determination and control of their resources and their relationship both among themselves and with non-Indian governments, organizations, and persons.
- | Functional restoration of the ecosystem provides the capability to support harvestable levels of species of interest to the tribes.
- | Culturally significant items and sites are understood and treated within the context of the culture that identifies and values them.

Standard

1. Consultation procedures and intergovernmental agreements with the tribes to guide future cooperative efforts will comply with protocols set forth in the National Resource Book on American Indian and Alaska Native Relations Working Draft 1995 or its successor.

Roads, Trails And Access

Goal

1. The Forest road and trail system is cost effective and integrates human needs with those of other resource values, as described in the Roads Analysis.

Standard

1. The following table defines access allowable on the Grassland.

Season	Type of Access	Cross-Country Travel	Road & Trail Travel
Snow-free Season	Pedestrian	Yes	Yes
	Horse	Yes	Yes
	Mntn Bike/Mechanized	No	Designat ed Rts.
	Motorized	No	Designated Rts.
Snow Season	Winter Non-motorized	Yes	Yes
	Snow machine	Yes	Yes

Guideline

1. Seasonal vehicle closures will be one of the methods used as needed to provide security areas for wildlife.

Recreation

Desired Future Condition

- ┆ Landscapes reflect a sense of place.

SCENERY MANAGEMENT

Goal

1. Maintain the scenic quality of the Curlew National Grassland.

DEVELOPED FACILITIES

Goal

1. Maintain or increase developed site capacity, as needed, on the Grassland.

Standards

1. Facilities that cannot be maintained to acceptable health and safety requirements will be closed until they can be brought up to standard.
2. Do not locate new recreational facilities within Riparian/Wetland Areas (RWAs).

DISPERSED RECREATION USE

Goal

1. Provide quality dispersed recreation opportunities.

Guidelines

1. Low-development-level facilities should be provided at heavily used dispersed areas to prevent resource damage and protect public health and safety.
2. Manage dispersed recreation use such that activities do not adversely impact wildlife species such as upland game birds during critical periods of the annual life cycle.

Heritage Resources

Desired Future Conditions

- | Visitors to the Grasslands find opportunities to learn about and enjoy their cultural heritage. Visitors have the opportunity to reflect on the relevance of the past and the land to their daily lives.
- | Historic and archaeological resources are properly managed to provide for preservation of the resource for current and future generations.
- | Significant sites are inventoried, protected, and, if warranted, nominated to the National Register of Historic Places.

Goals

1. Fully integrate the Heritage Program into land and resource management. Strengthen internal linkages with recreation, water, lands, minerals, and range to assure integrated efforts and quality products.
2. Identify archaeological and historic properties on the Curlew National Grassland.
3. Manage archaeological and historic resources, including inventory, evaluation, nomination to the National Register of Historic Places, and maintenance of the archaeological and historic resources on the entire Curlew Grassland for educational, scientific, and public benefit.
4. Protect archaeological and historic properties through stabilization and monitoring efforts. Monitor archaeological and historic properties, which may be adversely affected by management activities.
5. Prepare and maintain ethnographic, prehistoric, and historic overviews of the Grassland during the planning period.
6. Artifacts and records are curated and made available for study by qualified researchers.
7. Maintain a comprehensive overview of all known cultural resources and associated databases, atlases, and files on the Grasslands.
8. Expand partnerships with local communities, academic, and private sector institutions.

Objectives

1. Inventory 100 to 500 Grassland acres per year to locate and identify archaeological and historic properties.

2. Within 5 years of signing the ROD, develop a predictive model to guide the design and completion of cultural resource inventories.

Standards

1. Undertakings that could adversely affect heritage resources will comply with laws, regulations, and policies. Such compliance will be documented prior to signing the project decision.
2. Unevaluated cultural resource sites will be treated as significant until comprehensive evaluations are completed.

Guidelines

1. Cultural resources inventories will be conducted in consultation with the Idaho State Historic Preservation Office, Local Native American Tribes, and interested individuals or organizations likely to have knowledge or interest in the historic properties in the area.
2. Management plans for each historic property nominated to the National Register of Historic Places should be developed within five years of listing. The management plan should be drafted during the nomination process as part of the resource allocation.

Production of Commodity Resources

Livestock Management

Desired Future Conditions

- | Livestock grazing levels are sustainable and contribute to a stable social and economic foundation. Grazing systems are designed to promote plant and animal diversity and to move the Grassland toward desired future conditions of other resources.

Goal

1. The level of domestic livestock grazing is managed to be compatible with the desired conditions of resources including but not limited to the maintenance of organic ground cover, nutrient cycling, seed production, wildlife habitat and the restoration and maintenance of riparian communities.

Objective

1. Within three years of signing the ROD, Allotment Management Plans will be updated for the Curlew Valley Association and the Buist Association fields.
2. Within two years of signing the ROD, develop a monitoring protocol for livestock utilization monitoring and recording on the Grassland, following the Caribou-Targhee Rangeland Monitoring Protocol and Forest Service Handbook direction.

Standards

1. Implement the riparian grazing management protocol through the Annual Operating Instructions and updated Allotment Management Plans (AMPs). (See objective #2 above)
2. Apply utilization levels, as shown in the direction for Prescription Area 6.5.
3. Allow no livestock grazing before seed set of the second growing season after natural fires and rangeland planting or seeding. If monitoring shows that this is not adequate to meet resource needs, defer livestock grazing as necessary.

Guidelines

1. Ramps should be installed on all stock watering tanks to allow small animal entrance and escape.
2. When constructing livestock water developments, fence springs from livestock and return overflow to the original channel. Exclosures are designed to maintain the vegetation community and hydrologic function of the spring.

Ecological Subsections

Ecological types have been classified and mapped using a hierarchical system that stratifies ecological units into progressively smaller units of increasingly uniform ecological potentials. The Curlew National Grassland boundaries fall within two subsections:⁷ the *Humboldt River High Plateau (342Ba)* and the *Curlew Valleys and Lake Sediments (342Bb)*. These are described and listed below.

Humboldt River High Plateau Subsection (342Ba)

LOCATION: BASIN AND RANGE AREA OF SOUTHERN IDAHO

This subsection includes the Basin and Range physiographic areas of northeastern Nevada, northwestern Utah and southern Idaho. Potential natural vegetation is generally a mixture of sagebrush steppe, basin big sagebrush and mountain brush communities. The highest elevations (not within the Curlew National Grassland boundaries) in this subsection have Douglas-fir plant communities on north aspects. Dryland and irrigated agricultural practices have removed sagebrush and mountain brush cover in some areas of this subsection. Geology consists of Paleozoic marine sediments, rhyolitic flows and shallow intrusive rocks.

Approximately 33,093 acres of land within the 75,000-acre Curlew National Grassland boundary are within this subsection. Land ownership includes Bureau of Land Management, Forest Service, State and private.

The mountain ranges and valleys have an elevation range of 5,135 to 7,500 feet. Slopes range from 5 to 60 percent. Mean annual precipitation ranges from 8 to 25 inches. Natural disturbances consist of fire, flooding, insects and disease. The fire return interval is 20 to 40 years on the mountain big sagebrush cover types and 40 to 80 years for Wyoming big sagebrush types. Human-caused disturbances include grazing, agriculture, human-caused fire and some mining.

LANDSCAPE SETTINGS: MOUNTAINS, FOOTHILLS AND FANS, AND VALLEYS

The mountain elevations vary widely with slopes ranging from 15 to 60 percent. These landscapes include ridges and mountain sideslopes that are formed in sedimentary and volcanic parent materials. Soils on the ridges are shallow and those found on the mountain sideslopes are moderately deep to

⁷ A **subsection** is an ecological subdivision of land that has similar geology, lithology, geomorphic processes, soil groups, subregional climate, and potential natural communities.

deep. Vegetation consists of sagebrush steppe and mountain brush on the open exposures and Douglas-fir on the north exposures.

The foothills and fans are located at the lower elevations with slopes ranging from 5 to 35 percent. These landscapes include rolling hills, fans and foothills of mountains that are formed from sedimentary and volcanic parent materials. Soils are deep and very deep, and vegetation consists primarily of big sagebrush and bluebunch wheatgrass.

The valleys are the lowest elevations with slopes ranging from 5 to 25 percent. The valley bottoms formed from alluvium and depositional processes such as eolian (wind) deposits and lacustrine (lake) deposits. Soils are very deep and vegetation is big sagebrush and bluebunch wheatgrass.

UNIQUE FEATURES OF THE HUMBOLDT RIVER PLATEAU SUBSECTION

- Presence of mountain brush plant communities, containing the majority of native vegetation remaining on the Curlew National Grassland.
- Occurrence of basalt flows
- Steeper mountain slopes
- Higher precipitation
- Sagebrush steppe is predominantly Basin big sagebrush (*Artemisia tridentata* v. *vasaryana*)
- Higher productivity and higher erosion potential

Curlew Valley Lake Sediments Subsection (342Bb)

LOCATION: ANCIENT LAKE BONNEVILLE

This subsection includes valleys of the Northern Basin and Range section that have been influenced by ancient Lake Bonneville. These valleys were formed from alluvium derived from the surrounding mountain ranges and sediments from Lake Bonneville in the portions of this subsection that extends from Utah into southern Idaho. Potential natural vegetation consists of basin big sagebrush, sagebrush steppe and salt desert shrub. Geology consists of Quaternary detritus and Pleistocene glacial-lake and shoreline deposits.

Approximately 41,723 acres of land within the 75,000-acre Curlew National Grassland boundary are within this subsection. Land ownership includes Federal Government (Bureau of Land Management and Forest Service), State, and private.

The valleys have an elevation range of 4,500 to 6,000 feet. Slopes range from 0 to 25 percent. Mean annual precipitation ranges from 5 to 18 inches. Natural disturbances consist of fire, flooding and insect and disease. Fire return interval is 20 to 40 years on the sagebrush cover types. Human-caused disturbances include grazing, agriculture, human-caused fire and some gravel pit mining.

LANDSCAPE SETTINGS: VALLEY BOTTOMS AND SHORELINE TERRACES

The valley bottoms are at the lowest elevation with slopes ranging from 5 to 15 percent. This landscape includes bottomlands that formed from alluvium and lacustrine deposits from old lake

sediments. Soils are very deep, have sandy textures and are often high in salt content. Vegetation consists of basin big sagebrush and salt desert shrub.

The shoreline terraces and fans are located at the highest elevation of this subsection with slopes ranging from 10 to 25 percent. These landscapes include terraces left by the receding Lake Bonneville, and fans from adjacent mountain slopes. Soils are deep to very deep and have high salt content. Vegetation consists of sagebrush steppe.

UNIQUE FEATURES OF THE CURLEW VALLEY LAKE SEDIMENTS SUBSECTION

- Presence of salt desert shrub plant communities
- Lacustrine (lake deposited) soils
- Unnamed sagebrush taxa associated with old shoreline terraces
- Lake terraces containing high amounts of gravel
- Majority of bulbous bluegrass that is found on the Curlew
- Sand dune features
- Lower precipitation and productivity
- Elevation range is 4,570 to 5,100 feet above sea level

Management Prescriptions

Introduction

Management prescriptions, a set of management practices, are applied to a specific area of land to attain multiple-use and other goals and objectives. The purpose of management prescriptions is to provide a basis for consistently displaying management direction on Forest Service administered lands. Management prescriptions in the Forest Plan are intended to provide a general sense of the management direction or treatment of the land where each prescription is applied. They identify the emphasis and focus of multiple-use management activities in a specific area; however, *emphasis*, as used in this context, is defined as a focus or a highlight and does not necessarily mean exclusive use.

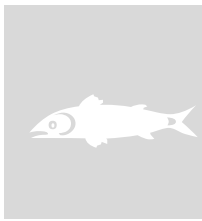
Management prescriptions provide a more focused view of specific land areas and how they will be managed. The specific direction stated in a management prescription determines what uses are allowed and to what extent the uses are permitted. Grassland-wide direction applies to the prescription areas unless superceded by the direction in the prescription.

The prescriptions are organized in categories and presented in a sequence allowing progressively more active management. Management prescriptions are not designed to stand alone. They are one part of the management direction package that also includes *Grassland-wide* goals, objectives, standards, and guidelines. Where a management prescription allows an activity, such as recreation or livestock grazing, the standards and guidelines in the prescription or in the Forest-wide direction provide specific parameters within which the activity must be managed. In land areas where prescriptions are applied, direction in this section would override forest-wide direction. Management prescriptions follow a number sequence, where lower numbers reflect less intensive management or use, and larger numbers reflect more human use or development. The Prescription Area Categories are explained at the beginning of each Category Section. On the Curlew National Grassland, there are no Category 1, 5, or 7 prescriptions applied. These are wilderness or backcountry areas, forest ecosystems, and intermingled lands, respectively.

Placing a management prescription number or title on an area does not make a decision about how any future site-specific conflict will be resolved. The responsible local Forest Service official has the discretion to determine how such conflicts may be resolved, through informal administration or more formal environmental analysis. When doing environmental analysis for future site-specific decisions, consideration must be given to the entire management direction package for a particular land area, including the goals, objectives, prescriptions, standards, guidelines, and desired conditions to be achieved in the area.

If an emergency event occurs on the Forest, deviation from these standards and guidelines may occur in order to protect human life, property values and structures, and forest resources. Activities in response to emergency events include such things as law enforcement, search and rescue, floods and fire fighting.

ADD A MAP OF THE RX AREAS HERE



CATEGORY 2

Areas of land where Category 2 prescriptions are applied provide for conservation of representative or particular rare and narrowly distributed ecological settings or components, such as riparian areas, wetlands, research natural areas or other special designated areas. These lands help insure conservation of ecosystems or ecosystem components that may provide important functions which insure the overall sustainability of larger landscapes. Human influences on ecological processes are limited to the degree possible but are sometimes evident. Human uses vary, but they are generally non-intensive. Travel is generally non-motorized.

PRESCRIPTION 2.8.8 - RIPARIAN/WETLAND AREAS (RWA)

This prescription applies to the RWAs associated with reservoirs, ponds, perennial and intermittent streams and wetlands. These areas control the hydrologic, geomorphic and ecological processes that shape the various water types and directly affect aquatic life. They also provide unique habitat characteristics that are important to those plant and animal species which rely on aquatic, wetland or riparian ecosystems for all or a portion of their life cycle. Many such habitats are locally rare and are sensitive to disturbance. Overall, these areas serve as important reservoirs of biodiversity; critical linkages for the interchange of plant and animal genetic material; specialized areas of nutrient cycling and freshwater filtration, storage, and transport; and are important to water quality.

Management emphasis is directed at the application of ecological knowledge to restore and maintain the functioning condition of these areas in ways that also produce desired resource values, products, protection, restoration, enhancement, interpretation, and appreciation of these areas. Efforts are made to encourage adjacent landowners to improve riparian areas to meet state and federal water quality standards.

RWAs provide high levels of aquatic protection and maintain ecological functions (e.g., sediment transport, microclimate control, nutrient regulation, and connectivity within the watershed) and processes (e.g., stream channel formation, plant community development, recruitment of organic material including woody materials, and hydrologic cycles) necessary for the restoration and maintenance of habitat for aquatic and riparian dependent organisms.

This management prescription is defined on the ground using boundary widths as defined in the table below. The RWA is a zone of special emphasis for the maintenance of riparian and stream channel processes. Sweeten Pond is not included in this prescription, it is managed as a Special Wildlife Area (Rx 3.4.1).

Table 4. 1: RWA zone widths for streams and water bodies on the Curlew National Grassland

STREAM TYPE	WIDTH ON EITHER SIDE OF CHANNEL **
Fish-bearing stream reaches	150 feet
Perennial non-fish-bearing reaches	75 feet
Reservoirs, ponds, wetlands greater than 1 acre	150 feet
Intermittent* channels, wetlands less than 1 acre	75 feet

* Flowing less than 50% of the time

**Default values unless defined otherwise by hydrologist and/or biologist

Goals

1. Minimize adverse effects to aquatic and riparian dependent animal, plant and invertebrate species from existing and proposed management activities.
2. Maintain or restore RWA ecological condition and function which includes stream channel processes and plant, animal and invertebrate habitat.
3. Maintain or restore natural variability of water table elevations in meadows and wetlands.
4. Maintain or restore diversity and productivity of native and desired non-native deep-rooted plant communities that assist in regulating surface and bank erosion and support native and desired non-native populations that contribute to the viability of riparian dependent communities.

Objectives

1. For riparian improvement, corridor fence those streams that are “at risk” and will benefit from that fencing by 2008.
2. By 2010, on the remaining perennial streams, outside of existing riparian pastures and corridor-fenced “at risk” streams, fence into riparian pastures--using existing pasture boundary fences to the extent possible.

Ecological Process and Patterns

FIRE/FUELS

Standard

1. Prescribed fire or vegetation treatment of lands adjacent to RWA's must be compatible with management prescription goals.
2. Fire retardants will not be used within RWA's.

Guideline

1. Avoid locating base camps, staging areas, hazardous material storage facilities, or other centers for incident management activities within this area. Exceptions may be granted on an individual basis following a review and recommendation by a resource advisor. The resource advisor will prescribe the location, use conditions and rehabilitation requirements.

Physical Elements

LANDS

Guidelines

1. Avoid locating utility corridors and their access roads in these areas whenever possible and minimize adverse effects if the areas cannot be avoided.
2. Issue leases, permits, rights-of-way and easements to avoid effects that would prevent attainment of RWA goals.

Biological Elements

WILDLIFE HABITAT

Guideline

1. Manage RWA to accommodate or promote adequate habitat requirements for fish, amphibians, birds and mammals.

Forest Use and Occupation

ACCESS

Standard

1. Existing and new culverts and stream crossings will be designed or improved to accommodate at least a 100- year flood event, including associated bedload and debris.

Guidelines

1. Avoid locating new roads or trails in RWAs, consistent with the Curlew Roads Analysis.
2. Improve, relocate or obliterate road or trail segments that have been identified in the Curlew Roads Analysis as not meeting the goals of this prescription area.

Standard

1. New recreation facilities and trail corridors will be constructed outside RWA's.

Guideline

1. Adjust dispersed and developed recreation practices that delay or prevent attainment of RWA goals.

Production of Commodity Resources

LIVESTOCK MANAGEMENT

Standards

1. Riparian utilization levels will be established at the site specific level based on the PFC status of the stream using approved protocols in an interdisciplinary process. The protocol will set stubble heights, percent utilization limits, bank disturbance, soil disturbance, and woody species utilization limits depending upon the stream condition and channel type.
2. New livestock watering facilities, corrals, and holding pastures will be placed outside RWA's.
3. Developed seeps and springs will have excess water returned to the drainage channel and the source will be fenced to exclude livestock. Exclosures are designed to maintain the vegetation community and hydrologic function of the spring.
4. When corrals are reconstructed or replaced they will be relocated outside the RWA.
5. Modify grazing practices as necessary to comply with Idaho water quality standards and Clean Water Act requirements including Total Maximum Daily Load limits (TMDLs).

Guideline

1. Grazing should not be allowed within riparian corridor fences unless it is needed to maintain plant vigor. Before allowing livestock grazing, a site-specific evaluation must be conducted and a determination made by a journey-level hydrologist or biologist that entry will not compromise RWA goals or reduce water quality below that needed to comply with state water quality requirements and sustain beneficial uses. Fences can be removed when the streams reach Properly Functioning Condition (PFC). These reaches will then be included in a riparian pasture and grazed as determined by the protocol developed.
2. When constructing corridor fences, provide gaps in the fences to allow livestock access to water. If necessary, harden water gaps to reduce sediment.
3. Adjust grazing practices that do not meet RWA goals.



CATEGORY 3

Lands where Category 3 prescriptions are applied provide for a balance between ecological values and human uses. Resource management activities may occur, but natural ecological processes and resulting patterns will normally predominate the landscape. Although these land areas are characterized by natural appearing landscapes, an array of management tools can be used to restore or maintain relatively natural patterns of ecological processes. Lands in this prescription category show some evidence of human activities. Restrictions on motorized travel can vary from area to area and season to season.



PRESCRIPTION 3.4.1 - SPECIAL WILDLIFE AREAS

This prescription applies to those rangeland sites that are managed with an emphasis on developed wildlife habitats, specifically Sweeten Pond and tree row areas. These sites represent limited and unique habitats not found on other areas of the Grassland. Development includes intensively managed, often fenced tree rows with introduced shrub and tree species. Sweeten Pond developments include water impoundments, pumps, spillways, and fencing with natural appearing ponds and wetlands; uplands are natural in appearance comprised of both native and non-native vegetation.

Because of the unique nature of these areas, the greatest diversity of wildlife species occurring on the Grassland will be found on lands under this prescription. Livestock are not permitted in these areas. Recreation users may occasionally be encountered; during the fall months upland bird/game bird hunters are frequently encountered.

Goals

1. Maintain and develop those unique habitats which support a diversity of wildlife species.
2. Promote opportunities for additional wildlife viewing and interpretation.

Objectives

1. Maintain existing fences annually to meet wildlife habitat goals each year.
2. Maintain water in Sweeten Pond each year, by pumping when needed.

Biological Elements

VEGETATION

Standards

1. Native and non-native grass, forb and shrub species will be used in the composition for revegetation after disturbance and reflect those species preferred by native grouse for pre-nesting, nesting and brood rearing.
2. Vegetation treatments are allowed when they meet wildlife resource goals of this prescription.

WILDLIFE

Standard

1. Treatments and developments will emphasize maintenance and improvement of wildlife habitat.

Forest Use and Occupation

ROADS AND TRAILS

Standard

1. Construct no new roads.

RECREATION

Guidelines

1. Recreation activities are permitted as long as they do not detract from the goals of this prescription.
2. Maintain Recreation Opportunity Spectrum (ROS) in semi-primitive nonmotorized.
3. Scenic Integrity Objective- High to moderate.



CATEGORY 4

Lands where Category 4 prescriptions are applied provide for the management of ecological values to provide human recreational uses, such as developed and dispersed recreation areas. Recreation uses are within levels necessary to maintain overall ecological systems. Resource uses for other values generally are not emphasized and have little impact on ecological structure, function or composition. Sights and sounds of humans, on site, can be expected and even desired. Motorized transportation is common.



PRESCRIPTION 4.1.2 - DEVELOPED RECREATION SITES

This prescription applies to inventoried developed recreation sites, such as campgrounds, trailheads, and wildlife viewing areas. Levels of development range from native material roads and camp sites to paved roads, concrete walkways and picnic shelters.

Visitors will encounter other people, seeing and hearing motorized vehicles and other human activity. Site facilities and modifications will be evident. Visitors may gather down firewood for camping, but home-use firewood gathering is not permitted. Visitors generally will not find livestock within developed recreation sites but livestock grazing may be evident adjacent to these areas.

These prescription areas are not all mapped on the management prescription maps due to their small size. Prescription area direction applies wherever these areas occur on the Grasslands.

Goals

1. Provide for a variety of concentrated public recreation uses in a predominantly natural setting based on the character of the areas and visitors' needs.
2. Protect and enhance a natural appearing environment while maintaining a variety of developed recreation opportunities.
3. Promote wildlife viewing opportunities when compatible with developed recreation use.
4. Provide opportunities for interpretation.

Ecological Process and Patterns

INSECTS AND DISEASE

Guideline

1. Control disturbances, such as insects and disease, consistent with recreational goals.

FIRE/FUELS

Guidelines

1. Prescribed fire generally will not apply here; it may be used however, to obtain more properly functioning conditions in preference to soil-disturbing techniques.
2. Natural fuels will be reduced or otherwise treated so the potential fireline intensities will not exceed 100 BTU per second per foot on 90 percent of the days during the regular fire season (Burning Index<40).

Physical Elements

SOILS

Standard

1. When rehabilitating detrimentally disturbed soil, use techniques that do not detract from the recreation opportunity.

Guideline

1. Avoid new construction on unstable or highly erodible soil.

LANDS

Standard

1. Corridor rights-of-way will avoid developed recreation areas.

RECREATION AND OUTFITTER/GUIDE

Guidelines

1. Developed campgrounds and picnic areas that have a seasonal use level of 40 percent or higher should be managed at the Standard Service Level.
2. Those campgrounds with less than 20 percent season-long use may require closure of sites first, and then, if needed, closure of the entire facility.
3. Manage for semi-primitive motorized to rural Recreation Opportunity Spectrum (ROS).
4. Manage for appropriate visual quality objective of partial retention or modification. Facilities are often evident but harmonize and blend with the setting.



CATEGORY 6

Lands where Category 6 prescriptions are applied are primarily non-forested ecosystems that are managed to meet a variety of ecological and human needs. Ecological conditions are maintained with an emphasis on selected biological structures and compositions that consider the range of natural variability. These lands often display high levels of investment, use and/or activity, density of facilities, and evidence of vegetation manipulation activities. Facilities that support various resource uses are common. Motorized transportation is common, but some seasonal restrictions may occur.

PRESCRIPTION 6.5 – RANGELAND VEGETATION and UPLAND BIRD HABITAT MANAGEMENT

The purpose of this prescription is to maintain the current acreage of mature sagebrush (greater than 15 percent canopy coverage) at the end of the decade, while increasing the amount of acres in the 6-15 percent canopy class to improve habitat for sage grouse nesting and brood rearing. Management would also emphasize improving wildlife habitat and understory diversity.

Generally, the Grassland presents a natural appearance interspersed with landscapes that are agricultural or rural in character. A variety of rangeland vegetation successional stages may be present, ranging from areas with recent fires or treatments to late successional structure. More than half of the sagebrush acres in this prescription are in a late seral status.

Forage is provided on a sustained basis that protects watershed values and wildlife habitat. Domestic livestock grazing is present in most areas, and visitors will see range improvements such as fencing, vegetation treatments and stock tanks.

A wide variety of sagebrush/grass associated wildlife species may be encountered as well as wildlife associated with mountain brush vegetation types. Upland game bird hunters are likely encountered during the fall months.

Vegetation manipulation (with the use of fire, mechanical means, or herbicides) may occur to achieve or maintain properly functioning vegetation conditions. A variety of rangeland vegetation successional stages can be observed. Range riders and horse trailers may be seen at various times especially while moving cattle to different fields. Dispersed recreation activity generally occurs throughout these areas.

Goals

1. Maintain the current levels of sagebrush in the >15% canopy cover with an emphasis on treating those acres that are in the greater than 25 percent canopy cover class to maintain sage grouse habitat.

2. Maintain livestock grazing consistent with other resource values.
3. Establish a collaborative process to share information and management objectives on intermingled and adjacent lands under different ownerships.
4. Provide opportunities for adjacent landowners to work with public land managers in the attainment of resource objectives.

Objectives

1. Within 10 years of signing the Record of Decision, treat 2,500 acres of bulbous bluegrass (2200 acres in >15% cc and 300 acres in < 15% cc) and reseed with native and non-native grass, forb and shrub seed mixtures.
2. Within 10 years of signing the Record of Decision, treat 9,600 acres of sagebrush with herbicide or other appropriate methods to reduce canopy cover and achieve other resource objectives.

Guideline

1. Design treatments to retain approximately 40 percent of the sagebrush acres in sage grouse nesting habitat (15-24% canopy cover).

Ecological Process and Patterns

FIRE/FUELS

Guideline

1. Prescribed fire may be used to achieve desired ecological conditions or resource objectives.

Biological Elements

FISH/WATER/RIPARIAN

Guideline

1. Prioritize streams that are “at risk” and that have the potential for restoration.

VEGETATION

Guidelines

1. Bulbous bluegrass dominated sites and sagebrush stands with >25 percent canopy cover will be priorities for treatment.
2. Consider maintaining dense (>15%) sagebrush cover adjacent to private land that has less sagebrush than is desirable for quality sage grouse habitat.

WILDLIFE

Standard

1. Do not treat sagebrush within 0.25 miles of an active sage grouse lek.

Guideline

1. Time treatment practices to provide the least impact to wildlife with emphasis on upland game birds.
2. Current guidelines for sage and sharp-tailed grouse management will be used as a basis to develop site-specific recommendations for proposed sagebrush treatments. Lek buffers as described in the most current guidelines do not apply to the Grassland, because of the highly fragmented nature of the area and the distance that hens are known to move to nest (Biologist Meeting 10/24/01). Rationale for deviation from the other guidelines will be identified in the site-specific project analysis.
3. Areas of vegetation treatment will consider sagebrush canopy cover, understory diversity and proximity to known active lek sites. Higher priority will be given to treatments of sagebrush in the greater than 25% canopy cover class and areas with limited understory diversity.
4. When implementing vegetation seeding treatments, provide for a seed mix with species that are preferred by native upland birds during the pre-nesting, nesting and brood-rearing periods, where possible. See Appendix C.

Forest Use and Occupation

ROADS AND TRAILS

Guideline

1. Maintain access at current levels and consistent with the Curlew Roads Analysis.

RECREATION AND OUTFITTER/GUIDE

Guidelines

1. Recreation and interpretation facilities may be provided.
2. Maintain Recreation Opportunity Spectrum in roaded natural to semi-primitive motorized.
3. Facilities may be provided to reduce adverse resource impacts at heavily used dispersed recreation sites.

Production of Commodity Resources

LIVESTOCK MANAGEMENT

Standard

1. Apply livestock utilization levels, as measured by key area⁸ concept, unless determined otherwise through the interdisciplinary team process. Average percent utilization of upland herbaceous vegetation across the Grassland will be 50 percent by dry weight each year. Allowable use levels in individual pastures, however, will be determined in the Allotment Planning Process and Annual Operating meetings.

Guideline

1. In pastures dominated by crested wheatgrass, higher use levels (>50% by dry weight) may be prescribed to maintain overall plant health and vigor. Use levels may be lower (35 to 45% by dry weight) in pastures dominated by native vegetation and in areas of 16-25 percent sagebrush canopy cover to leave adequate residual vegetation for hiding cover. These levels would be determined using an interdisciplinary, adaptive management process and will likely change from year to year.

⁸ **Key Area** - A relatively small portion of rangeland which because of its location, grazing or browsing value, and/or use, serves as a monitoring and evaluation site. A key area guides the general management of the entire area of which it is a part, and will reflect the overall acceptability of current grazing management over the range.



CATEGORY 8

These lands are likely to be permanently altered by human activities. Ecological values are protected where they affect the health and welfare of human occupancy. Mines, utility corridors or other concentrated uses are included in this prescription category. Human activities are generally commercial in nature and provide jobs and incomes. These areas are generally small and motorized transportation is common.



PRESCRIPTION 8.1.2 - CONCENTRATED DEVELOPMENT AREAS

This prescription applies to all existing concentrated developments including active mines, borrow pits, gravel pits, electronic sites, utility corridors (electric transmission lines of 50 Kv or greater, and major natural gas conduits), and administrative sites (including guard stations). These are generally highly developed areas with much evidence of people, structures, roads, and disturbed ground. High noise levels sometimes emanate from these sites due to the use of heavy equipment or blasting at various times. Other sites are collections of buildings and storage structures from which the administration of the Grassland is carried out.

Goal

1. Allow concentrated development in areas for mineral, oil and gas development and infrastructure needs.

Physical Elements

LANDS

Guidelines

1. Allow energy and/or utility corridors on the Grassland; allowable widths would be determined based on the project proposal and analyzed at the site-specific level.
2. Restrict concentrated development sites to the smallest area possible.

Biological Elements

VEGETATION

Standards

1. Noxious weeds will be monitored for two years after activity area is disturbed, if weeds appear, they will be treated.
2. Only gravel from weed-free sources will be used on the National Grasslands.

Chapter 5

Implementation and Monitoring

Implementation, Monitoring, and Evaluation

This Chapter generally outlines the implementation schedule and monitoring requirements for the Forest Plan. We have displayed the implementation as the objectives to be met.

This Part provides programmatic direction for monitoring and evaluating management plan implementation as required by NFMA (36 CFR 219.11 inter alia). Monitoring provides the Forest Supervisor with the information necessary to determine whether the Revised Forest Plan is sufficient to guide management of the Caribou NF for the subsequent year or whether modification of the plan is needed.

Implementation Strategy

The implementation of this Grassland Plan is displayed in this table of objectives and timeline for meeting those objectives. This schedule will be used to help design the program of work for each resource group. It will also be used to assist budget allocations each year.

Table 5.1 Objectives in the Grassland Plan

Objective	Annually	Year									
		1	2	3	4	5	6	7	8	9	10
GENERAL ECOLOGICAL CONDITIONS											
1. Within 10 years after signing the ROD, reassess vegetation PFC of ecosystems on the Grassland and adjacent areas, to determine if resources are moving toward DFCs.											■
WATER QUALITY											
1. Proactively address all impaired waterbodies within 5 years subject to funding and State schedules.						■					
FISHERIES, WATER, WATERSHED AND RIPARIAN RESOURCES											
1. Establish an upward trend on all perennial riparian systems within the next decade.											■
VEGETATION											
1. Treat 12,100 acres of sagebrush over the next 10 years.											■

WILDLIFE											
1. Sagebrush Habitats: Assess the changes to sagebrush habitats in the Greater Curlew Valley, including canopy cover, adjacent land use, understory conditions, every five years. Coordinate with interested groups.						■					■
1. Grouse: Build a blind for lek observation.					■						
2. Grouse: Develop a map in cooperation with IDFG to identify functional and degraded breeding habitat within 2 years of the signing of the ROD.			■								
1. Riparian Habitats: Map stream reaches and identify existing and potential willow shrub communities within 2 years of signing the ROD.			■								
HERITAGE RESOURCES											
1. Inventory 100 to 500 acres of the Grassland each year to locate and identify archaeological and historic properties.	■										
2. Within 5 years of signing the ROD, develop a predictive model to guide the design and completion of cultural resource inventories.						■					
LIVESTOCK MANAGEMENT											
1. Within 3 years of signing the ROD, AMPs will be updated for the Curlew Valley and Buist Association fields.				■							
2. Within 2 years of signing the ROD, develop a monitoring protocol for livestock use monitoring and recording on the Grassland, following the C-T Rangeland Monitoring Protocol and FS Handbook direction.			■								
→ Rx 2.8.8 RIPARIAN/WETLAND AREAS											
1. For riparian improvement, by 2008 corridor fence those streams that are “at risk” and will benefit from that fencing.								■			
2. On the remaining perennial streams, outside of existing riparian pastures and corridor fenced “at risk” streams, fence into riparian pastures using existing boundary fences by 2010.										■	
🏠 Rx 3.4.1 SPECIAL WILDLIFE AREAS											
1. Maintain existing fences annually to meet wildlife habitat goals.	■										
2. Maintain water in Sweeten Pond each year, by pumping when needed.	■										
🐾 Rx 6.5 RANGELAND VEGETATION AND UPLAND BIRD HABITAT MANAGEMENT											
1. Within 10 years of the ROD, treat 2,500 acres of bulbous bluegrass and reseed with native and non-native grass, forb, and shrub seed mixtures.											■
2. Within 10 years of the ROD, treat 9,600 acres of sagebrush with herbicides or other appropriate methods to reduce canopy cover from >25% canopy cover and to achieve other resource objectives.											■

Monitoring Strategy

Monitoring and evaluation are conducted at several scales and for many purposes, each of which has different objectives and requirements. Monitoring requirements and tasks are developed to be responsive to the objectives and scale of the plan, program, or project to be monitored. They determine how well objectives have been met and how closely management standards and guidelines have been applied. Monitoring generally includes the collection of data and information, either by observation or measurement. Evaluation is the analysis of the data and information collected during the monitoring phase. The evaluation results form a basis for adaptively managing the Grassland.

The following Monitoring Plan identifies the key items specific to the Curlew. The activities in Table 5.2 are have been identified by both Forest Service employees and the public. Forest Service research and other federal and state agencies may be involved with developing protocols for monitoring.

Monitoring Activities

The monitoring activities presented have been developed to assess progress toward Desired Future Conditions and respond to Grassland Plan goals and objectives (Table 5.1); to provide focus for data collection and analysis; and to be compatible with Caribou RFP monitoring. Table 5.2 represents management plan monitoring activities that address priority management emphasis, goals and objectives. This portion of monitoring and evaluation activities will vary each year in response to changing issues, budgets, science and methodologies. It is anticipated that the depth of analysis for any of the monitoring program may also vary from year to year.

All monitoring assumes that the full range of management activities follows management area, geographic area, and grassland direction; laws and management policy; and acceptable resource-protection standards and guidelines. Deviations from this assumption will be identified through the monitoring process. **The monitoring program outlined here is the optimal level, assuming the plan is fully funded.** It is unlikely that annual budgets will fully fund the monitoring effort shown here. Priorities for the annual monitoring effort will be based on budgets and program direction. In order to maximize efficiency and promote cooperation, the Forest will seek to develop monitoring partnerships with federal and state agencies and other entities as appropriate, to further shared goals and carry out agency responsibilities.

Evaluation

Each year the monitoring results will be compiled and analyzed to determine if the Forest is following the Plan and if the activities prescribed by the Plan are moving the Grassland toward the Desired Future Conditions. With adaptive management, this evaluation is critical to the success of the program. If the monitoring shows that activities are not moving Grassland conditions towards goals and DFC's, then management strategies can be adjusted. Continual re-evaluation of conditions is designed to insure that management of the Grassland will achieve the goals for the next decade.

A comprehensive Monitoring and Evaluation Report will be completed and published every five years. Annually we will gather and compile data for inclusion in the State-of-the-Grassland Report. The Report summarizes the monitoring and evaluation, and contains recommendations to the Forest Supervisor. Based on the report and other relevant information, the Forest Supervisor certifies the Plan as sufficient for management over the subsequent year or that the plan needs to be amended.

Table 5.2 Curlew Grassland Plan Monitoring Plan

Resource	Parameter Monitored	Monitoring Activity	Type of Monitoring	Frequency of Measurement	Precision Reliability	Priority	Responsibility
Soils	Detrimental Soil Disturbance	Evaluate according to R-4 Soil Quality Standards. Apply Grassland-wide on representative sites of various land treatments.	Implementation Effectiveness	Annually	A	2	Forest Soil Scientist
	Ground Cover	Grassland-wide on representative sites or habitat types where new land treatments occur. Evaluate the rate at which habitat types recover from hydrologic disturbances. Include measurements of fine organic matter to address long-term soil productivity.	Implementation Effectiveness	Annually	A	2	Forest Soil Scientist
	Soil Heating	Evaluate fire intensity to determine impacts on soil quality. Measure area extent of severely burned soils.	Implementation	After each fire event.	B	2	Forest Soil Scientist
Vegetation	Big Sagebrush and Mountain Brush Canopy Cover	Reevaluate sagebrush canopy cover classes using a Landsat analysis similar to the USU and Prevedel studies or a more site-specific inventory method. Approved methods in the FSH 2209.11 will be used.	Implementation Effectiveness	Every 10 years	A	1	District Rangeland Managers
	Changes in shrub and understory diversity in bulbous bluegrass treatments.	Establish a monitoring plan in consultation with the Regional Ecologist, using control plots to determine vegetation trends. Protocol will include methods that will show the changes in understory and overstory vegetation and canopy cover reestablishment.	Implementation Effectiveness Validation	Bulbous bluegrass treatments would be measured at times prescribed by Regional Ecologist	A	1	District Rangeland Managers

Resource	Parameter Monitored	Monitoring Activity	Type of Monitoring	Frequency of Measurement	Precision Reliability	Priority	Responsibility
	Changes in shrub and understory diversity from other vegetation treatments.	Protocol will include methods that will show the changes in understory and overstory vegetation and canopy cover reestablishment and other shrub parameters. Include evaluation of sage grouse habitat quality.	Effectiveness Validation	Before treatment and in years 3 and 10 after treatment.	A	1	District Rangeland Manager and Wildlife Biologist
	Long-term vegetation benchmarks	Establish at least one nested frequency transect within representative native vegetation in the NW unit to monitor long-term condition and trend.	Effectiveness	Every 10 years	A	1	District Rangeland Manager
	Vegetation Changes	Document and map natural and man caused disturbances.	Implementation	Annually	A	1	District Rangeland Manager
Water and Riparian	Riparian Properly Functioning Condition	Reassess streams for PFC using the BLM/FS Protocol and the Integrated Riparian Evaluation Guide or other established protocols. Compare recovery rates between annually and periodically grazed pastures.	Effectiveness Validation	Every 5 years	B	2	District Rangeland Managers
	Water Quality	Monitor water quality on water quality limited streams.	Effectiveness Validation	Annually	A	1	Forest Hydrologist
Wildlife— Management Indicator Species	Sage Grouse and Columbian Sharp-tailed grouse	Each spring conduct sage and sharp -tailed grouse lek surveys in cooperation with BLM, IDFG and other interested parties on known active and inactive leks.	Validation	Annually	B	1	District Biologist
	Riparian Breeding Birds	Monitor riparian breeding bird habitat keying in on willow shrub structure. Methods may also include long-term point counts for birds.	Effectiveness	Every 5 years	A	1	Forest Wildlife Biologist

Resource	Parameter Monitored	Monitoring Activity	Type of Monitoring	Frequency of Measurement	Precision Reliability	Priority	Responsibility
Livestock Grazing	Livestock Utilization	Monitor grazing utilization/stubble height parameters; protocol to be established in consultation with IDT and Regional Ecologist. Protocol will include (at a minimum) yearly utilization mapping and upland and riparian key area utilization transects.	Implementation Effectiveness	Annually—use mapping on 100% of CNG; transects/cages in at least 25% of pastures	A	1	District Rangeland Manager
Recreation and Access	Developed Site Conditions	Review fee records and other methods to determine use levels and site conditions.	Implementation Effectiveness Validation	Annually	A	1	District Recreation Specialist
	Dispersed Area Use and Condition	Use observations, road and trail counters to monitor resource conditions and use levels at dispersed recreation sites.	Effectiveness	Annually	B	1	District Recreation Specialist
	Travel and Recreational Activity Impacts	Use observations and surveys to assess resource conditions in areas of concern such as high use areas or along travel routes.	Implementation Effectiveness	Annually	B	2	District Recreation Specialist

GLOSSARY

Glossary of Terms in the Curlew Grassland Plan

Abiotic. Non-living. Climate is an abiotic component of ecosystems.

Acre-foot. A measure of water or sediment volume equal to the amount which would cover an area of one acre to a depth of one foot (325,851 gallons).

Active Lek. A traditional display area in or adjacent to sagebrush dominated habitats that has been attended by two or more male sage grouse in two or more of the previous five years.

Adaptive Management. A type of natural resource management that implies making decisions as part of an on-going process. Monitoring the results of actions will provide a flow of information that may indicate the need to change a course of action. Scientific findings and the needs of society may also indicate the need to adapt resource management to new information.

Affected Environment. The natural environment that exists at the present time in an area being analyzed.

Air Shed. A geographical area that, because of topography, meteorology, and climate, shares the same air.

Allotment (range allotment). The area designated for use by a prescribed number of livestock for a prescribed period of time. Though an entire Ranger District may be divided into allotments, all land will not be grazed, because other uses, such as recreation or tree plantings, may be more important at a given time.

Alluvial Fan. A body of unconsolidated clastic material and debris flow, conical in shape, forming at the point where a stream emerges from a narrow valley onto a broader, less sloping valley floor.

Alternative. One of several policies, plans or projects proposed for decision-making.

Analysis Area. See "Regional Analysis Area."

Animal Unit Month (AUM). The amount of forage required by one calf and her cow or 1 horse or 5 sheep for one month.

Aquatic Ecosystem. The stream channel, lake or estuary bed, water, biotic communities and the habitat features that occur therein.

Aquatic Habitat Types. The classification of instream habitat based on location within channel, patterns of water flow, and nature of flow controlling structures. Riffles are divided into three habitat types: low gradient riffles, rapids, and cascades. Pools are divided into seven types: secondary channel pools, backward pools, trench pools, plunge pools, lateral scour pools, dammed pools, and beaver ponds. Glides possess attributes of both riffles and pools and are characterized by moderately shallow water with an even flow that lacks pronounced turbulence.

Aquatic Macroinvertebrates. Invertebrates living within aquatic systems that are large enough to be seen with the naked eye, i.e. most aquatic insects.

Aquifer. A body of rock that is saturated with water or transmits water. When people drill wells, they tap water contained within an aquifer.

Aspect. The direction a slope faces. A hillside facing east has an eastern aspect.

Assessment. The Renewable Resource Assessment required by the Resources Planning act (RPA).

Avoidance Areas. Areas having one or more physical, environmental, institutional or statutory impediments to corridor designation.

These are two types of avoidance areas:

1. Discretionary -- areas that may be crossed by corridors only if necessary and reasonable mitigation or avoidance of significant impacts can be obtained.
2. Nondiscretionary -- areas that may not be crossed by corridors unless authorized by the appropriate official (for example, Governor, President, etc.)

Background. The visible terrain beyond the foreground and middleground where individual trees are not visible but are blended into the total fabric of the stand. (See "Foreground" and "Middleground".)

Backslope. The component of the hill slope that forms the steepest inclined surface and is frequently the principal element. The surface is dominantly steep and linear in profile and erosional in origin.

Big Game. Those species of large mammals normally managed for sport hunting.

Biological Control. The use of natural means to control unwanted pests. Examples include introduced or naturally occurring predators such as wasps, or hormones that inhibit the

reproduction of pests. Biological controls can sometimes be alternatives to mechanical or chemical means.

Biological Diversity. The number and abundance of species found within an a common environment. This includes the variety of genes, species, ecosystems and ecological processes that connect everything in a common environment.

Biomass. The total weight of all living organisms in a biological community.

Biome. The complex of living communities maintained by the climate of a region and characterized by a distinctive type of vegetation. Example of biomes in North American include the tundra, desert, prairie, and the western coniferous forests.

Biota. The plant and animal life of a particular region.

Biotic. Living. Green plants and soil microorganisms are biotic components of ecosystems.

BMP (Best Management Practices). Practices designed to prevent or reduce water pollution. Also referred to as Soil and Water Conservation Practices (SWCPs).

Broadcast Burn. Allowing a prescribed fire to burn over a designated area within well-defined boundaries for reduction of fuel hazard, improve forage for wildlife and livestock, or encourage successful regeneration of trees.

Browse. Twigs, leaves and young shoots of trees and shrubs that animals eat. Browse is often used to refer to the shrubs eaten by big game, such as elk and deer.

Buffer. A land area that is designated to block or absorb unwanted impacts to the area beyond the buffer. Buffer strips along a trail could block views that may be undesirable. Buffers may be set aside next to wildlife habitat to reduce abrupt change to habitat.

Canopy. The more or less continuous cover of branches and foliage formed collectively by the crown of adjacent trees and other woody growth. It usually refers to the uppermost layer of foliage, but it can be used to describe lower layers in a multi-storied ecosystem. The percent of a fixed area covered by the crown of an individual plant species or delimited by the vertical projection of its outermost perimeter; small openings in the crown are included.

Canopy Cover. Used to express the relative importance of individual species within a vegetation community or to express the canopy cover of woody species. Canopy cover may be used as a measure of land cover change or trend and is often used for wildlife habitat evaluations. (See Crown Closure).

Capability. The potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils and geology, as well as the application of management practices, such as silviculture or protection from fire, insects and disease.

Capture (input). One of the ways functions are described; resources (organisms, materials, and energy) brought into the system (i.e., photosynthesis, migration, onto summer range, pollution brought in by wind or water.)

Cartographic Feature File. A data file containing the digital representation of all features, except contours, from a Primary Base Series map. Features are represented as line strings and points in ground coordinates with attribute information attached.

Catastrophic Condition. A significant change in forest conditions on the area that affects Forest Plan resource management objectives and their projected and scheduled outputs, uses, costs, and effects on local communities and environmental quality.

Channel Depth. The average depth of channel from mean high water mark to mean high water mark used to define stream type, instream flow calculations and riparian management.

Channel Gradient. The slope of the stream channel expressed on a percent of rise per unit length. A measure of the drop in water surface elevation per unit length of channel. The difference in water surface or streambed elevation of two study sites on a stream divided by the distance between the study sites.

Channel Roughness. A measurement used to determine energy losses and velocities of natural stream channels by using water energy slope (channel slope), velocity and hydraulic radius.

Channel Stability Rating. A rating of stream channels resistance capacity to the detachment of bed and bank materials.

Chemical Control. The use of pesticides and herbicides to control pests and undesirable plant species.

Clean Air Act. (42 U.S.C. 7609) Section 309 provides authority for the Environmental Protection Agency to review other agency environmental impact statements.

Climax. The culminating stage in plant succession for a given site where the vegetation has reached a highly stable condition.

Coarse Filter Management. Land management that addresses the needs of all associated species, communities, environments, and ecological processes in a land area. (See fine filter management.)

Composition. What an ecosystem is composed of. Composition could include water, minerals, trees, snags, wildlife, soil, microorganisms, and certain plant species.

Concern. (Also management concern.) An issue, problem or condition that constrains the range of management practices identified by the Forest Service in the planning process.

Congressionally Classified and Designated Areas. See "Wilderness."

Connected Actions. Closely related actions that automatically trigger other actions, cannot proceed unless other actions are taken previously or simultaneously, or are interdependent parts of a larger action and depend on the larger action for justification.

Connectivity (of habitats). The linkage of similar but separated vegetation stands by patches, corridors or "stepping stones" of like vegetation. This term can also refer to the degree to which similar habitats are linked.

Consistency. All resource plans and permits, contracts and other instruments for the use and occupancy of National Forest System land must be consistent with the Forest Plan.

Consumptive Use. A use of resources that reduces the supply, such as logging and mining (See also non-consumptive use).

Contour. A line drawn on a map connecting points of the same elevation.

Corridor. Elements of the landscape that connect similar areas. Streamside vegetation may create a corridor of willows and hardwoods between meadows where wildlife feed.

Cost-efficiency. The usefulness of specified inputs (costs) to produce specified outputs (benefits). In measuring cost efficiency, some outputs, including environmental, economic, or social impacts, are not assigned monetary values but are achieved at specified levels in the least cost manner. Cost efficiency is usually measured using present net value, although use of benefit-cost ratios and rates-of-return may be appropriate.

Council of Environmental Quality (CEQ). The Council issues regulations binding on all federal agencies, to implement the procedural provisions of the National Environmental Quality Act. The regulations address the administration of the NEPA process, including preparation of Environmental Impact Statements (EIS) for major federal actions which significantly affect the quality of the human environment.

Cover. Any feature that conceals wildlife or fish. Cover may be dead or live vegetation, boulders, or undercut streambanks. Animals use cover to escape from predators, rest or feed.

Cover Class. Represents a percentage range for a fixed area covered by the crowns of plants. It is measured as a vertical projection of the outermost portion of the foliage.

Cover type (vegetation cover type). Stands of a particular vegetation type that are composed of similar species. The aspen cover type contains plants distinct from the pinyon-juniper cover type.

Crown Fire. A fire that advances from top to top of trees and shrubs more or less independent of a surface fire.

Cross-Country Motorized Travel.

Cultural Resource. The remains of sites, structures, or objects used by humans in the past -- historical or archaeological.

Cultural Sensitivity. Refers to the likelihood of encountering significant cultural volumes (quantity and/or quality) that may affect and may be affected by ground-disturbing activities.

Cumulative Actions. Actions which when viewed with other proposed actions have cumulatively significant impacts.

Cumulative Effects or Impacts. The impact on the environment which results from the incremental impact of an action when added to other past, present and reasonably foreseeable future actions regardless of what agency or person undertakes such other action. Cumulative effects or impacts can result from individually minor but collectively significant actions taking place over a period of time.

Cycling. One of the ways functions are described; resources which are transported within the system (i.e., animal migration, nutrient cycling in a forest stand, snow melt becoming part of the surface or groundwater flow.)

Decision Criteria. The rules and standards used to evaluate alternatives to a proposed action on National Forest land. Decision criteria are designed to help a decision maker identify a preferred choice from an array of alternatives.

DEIS (Draft Environmental Impact Statement). The draft version of the Environmental Impact Statement that is released to the public and other agencies for review and comment.

Dependent Communities. Communities whose social, economic or political life would become discernibly different in important respects if market or non-market outputs from the National Forests were cut off.

Designated Corridor. A linear area of land with defined and recognized boundaries identified and designated by legal public notice.

Designated Routes.

Desired Future Condition (DFC). Land or resource conditions that are expected to result if goals and objectives are fully achieved. The DFC provides the framework to select appropriate standards and guidelines.

Detrimental Soil Disturbance. The condition where established threshold values for soil properties are exceeded and result in significant change.

Developed Recreation. Recreation that requires facilities that, in turn, result in concentrated use of the area. For example, skiing requires ski lifts, parking lots, buildings and roads. Campgrounds require roads, picnic tables and toilet facilities.

Dispersed Recreation. Recreation that does not occur in a developed recreation site, such as hunting, backpacking and scenic driving.

Disturbance. Any event, such as a forest fire or insect infestation that alters the structure, composition, or function of an ecosystem.

Diversity. The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan. See also "Edge," "Horizontal Diversity," and "Vertical Diversity."

Ecological Approach. Natural resource planning and management activities that assure consideration of the relationship between all organisms (including humans) and their environment.

Ecological Classification. A multifactor approach to categorizing and delineating, at different levels of resolution, areas of land and water having similar characteristic combinations of the physical environment (such as climate, geomorphic processes, geology, soil and hydrologic function), biological communities (such as plants, animals, microorganisms, and potential natural communities), and the human dimension (such as social, economic, cultural, and infrastructure).

Ecological Land Classification and Mapping. An hierarchical, multi-factor approach to categorizing and delineating, at different levels or resolution, areas of land having similar capabilities and potentials for management. These areas of land are characterized by unique combinations of the physical environment, biological communities and human dimension.

Ecological Process. The actions or events that link organisms (including humans) and their environment, such as disturbance, successional development, nutrient cycling, carbon sequestration, productivity, and decay.

Ecological Status. The degree of similarity between the present community and the potential natural community on a site. Used to determine the ecological status of a plant community.

Ecological Type (Habitat Type). A category of land having a unique combination of potential natural community; soil, landscape, features, climate and differing from other ecological types in its ability to produce vegetation and respond to management. Used to define land capability.

Ecological Unit. The map unit developed for an ecological type or types. This unit often includes a complex of small and intricately associated ecological types too small to delineate separately.

Ecology. The interrelationships of living things to one another and to their environment, or the study of these interrelationships.

Economic Efficiency Analysis. An analytical method in which incremental market and non-market benefits are compared with incremental economic costs.

Ecoregion. A continuous geographic area over which the macroclimate is sufficiently uniform to permit development of similar ecosystems on sites with similar properties. Ecoregions contain multiple landscapes with different spatial patterns of ecosystems.

Ecoregion Code. Ecogeographic code that identifies land surface form and hydrologic unit maps of the U. S. by Bailey and Cushwa.

Ecosystem. An arrangement of living and non-living things and the forces that move among them. Living things include plants and animals. Non-living parts of ecosystems may be rocks and minerals. Weather and wildfire are two of the forces that act within ecosystems.

Ecosystem/Cover Type. The native vegetation ecological community considered together with non-living factors of the environment as a unit; the general cover type occupying the greatest percent of the stand location.

Ecosystem Health. The state of an ecosystem in which the structure and functions are sufficiently resilient, allowing the maintenance of biological diversity over time and through a range of disturbance.

Ecosystem Management. The use of an ecological approach to achieve productive resource management by blending social, physical, economic and biological needs and values to provide healthy ecosystems.

Ecotype. A population of a species in a given ecosystem that is adapted to a particular set of environmental conditions.

Ecozone. The transition zone between two biotic communities, such as between the Ponderosa pine forest type and the mixed conifer forest, which is found at higher elevations than the pine.

Edge. The margin where two or more vegetation patches meet, such as a meadow opening next to a mature forest stand, or a Douglas-fir stand next to an aspen stand.

Edge Contrasts. A qualitative measure of the difference in structure of two adjacent vegetated areas; for example, "low," "medium," or "high" edge contrast.

Edge Effect. The increased richness of plants and animals resulting from the mixing of two communities where they join.

Effects. Environmental consequences as a result of a proposed action. Included are direct effects, which are caused by the action and occur at the same time and place, and indirect effects, which are caused by the action and are later in time or further removed in distance, but which are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air, water and other natural systems, including ecosystems.

Effects and impacts as used in this statement are synonymous. Effects include ecological (such as the effects on natural resources and on the components, structures and functioning of affected ecosystems), aesthetic quality, historic, cultural, economic, social or health whether direct, indirect or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effects will be beneficial (40 CFR 1508.8).

Element (of ecosystem). An identifiable component, process, or condition of an ecosystem.

Embeddedness. A rating of the degree that larger substrate particles (boulder, rubble or gravel) are surrounded or covered by fine sediment.

Endangered Species. Any species of animal or plant that is in danger of extinction throughout all or a significant portion of its range. Plant or animal species identified by the Secretary of the Interior and endangered in accordance with the 1973 Endangered Species Act.

Endangered Species Act. The Act which requires consultation with U.S. Fish and Wildlife Service if practices on National Forest System lands may impact a threatened or endangered species (plant or animal).

Endemic plant/organism. A plant or animal that occurs naturally in a certain region and whose distribution is relatively limited geographically.

Environmental Analysis. An analysis of alternative actions and their predictable long and short-term environmental effects. Environmental Analyses include physical, biological, social and economic factors.

Environmental Assessment. A brief version of an Environmental Impact Statement.

Environmental Impact Statement (EIS). A statement of the environmental effects of a proposed action and alternatives to it. It is required for major Federal actions under Section 102 of the National Environmental Policy Act (NEPA) and released to the public and other agencies for comment and review. It is a formal document that must follow the requirements of NEPA, the Council on Environmental Quality (CEQ) guidelines, and directives of the agency responsible for the project proposal.

Ephemeral Streams. Streams that flow only as the direct result of rainfall or snowmelt. They have no permanent flow.

Erosion. The wearing away of the land surface by wind or water.

Escape Cover. Vegetation of sufficient size and density to hide an animal, or an area used by animals to escape from predators.

Evaluation Criteria. Standards developed for appraising alternatives. (See decision criteria.)

Exclusion Areas. Areas having a statutory prohibition to rights-of-way for lineal facilities or corridor designation.

Exterior Fire Protection. The protection of structures from the exterior, with no interior access or activity.

Eyrie. A ledge along a cliff used for nesting peregrine falcons.

Facilities. Transportation planning, road management and operation, fleet equipment, and engineering services (for example, administrative buildings, water and sanitation systems, sanitary landfills, dams, bridges and communication systems).

Fauna. The animal life of an area.

Fine Filter Management. Management that focuses on the welfare of a single or only a few species rather than the broader habitat or ecosystem. (See coarse filter management.)

Fire Behavior. A manner in which fire reacts to the influences of fuel, weather, and topography.

Fire Cycle. The average time between fires in a given area.

Fire Effects. The physical, biological and ecological impacts of fire on the environment.

Fire Management. All activities required for the protection of resources from fire and the use of fire to meet land management goals and objectives.

Fire Management Plan. A specific area plan covering fire policy and objectives.

Fire Regime. The characteristics of fire in a given ecosystem, such as the frequency, predictability, intensity, and seasonality of fire.

Fire Risks. The chance of fire starting as determined by the presence and activity of causative agents; a causative agent; a number related to the potential number of firebrands to which a given area will be exposed during the rating day (National Fire Danger Rating System).

Fisheries Classification. Water bodies and streams classed as either having a cold water or warm water fishery. Designation is dependent upon the dominant species of fish occupying the water.

Fisheries Habitat. Streams, lakes, and reservoirs that support fish, or have the potential to support fish.

Flood Plain. A lowland adjoining a watercourse. At a minimum, the area is subject to a 1% or greater chance of flooding in a given year.

Flora. The plant life of an area.

Forage. All browse and non-woody plants that are eaten by wildlife or livestock.

Forb. A broadleaf plant that has little or no woody material in it.

Foreground. The part of a scene or landscape that is nearest to the viewer.

Forest Roads and Trails. A legal term for Forest roads or trails that are under the jurisdiction of the Forest Service.

Forest Supervisor. The official responsible for administering National Forest lands on an administrative unit, usually one or more National Forests. The Forest Supervisor reports to the Regional Forester.

Forage Utilization. The proportion of current year's forage production that is consumed or destroyed by grazing animals. Forage is all browse and herbage that is available and acceptable to grazing animals.

Fragmentation. The splitting or isolating of patches of similar habitat, typically forest cover, but including other types of habitat. Habitat can be fragmented naturally or from forest management activities, such as clearcut logging.

Frost Heave. A land surface that is pushed up by the accumulation of ice in the underlying soil.

Fuels. Plants and woody vegetation, both living and dead, that are capable of burning.

Fuel Arrangement. A general term referring to the spatial distribution and orientation of fuel particles within a natural setting.

Fuel Management. The treatment of fuels that would otherwise interfere with effective fire management or control. For instance, prescribed fire can reduce the amount of fuels that accumulate on the forest floor before the fuels become so heavy that a natural wildfire in the area would be explosive and impossible to control.

Fuel Model. Mathematical descriptions of fuel properties (e.g. fuel load and fuel depth) that are used as inputs to calculations of fire danger indices and fire behavior potential.

Fuel Reduction. Manipulation, including combustion, or removal of fuels to reduce the likelihood of ignition and/or lessen potential damage and resistance to control.

Fuel Treatment. Manipulation or removal of fuels to reduce the likelihood of ignition and/or lessen potential damage and resistance to control (e.g. lopping, chipping, crushing, piling, and burning).

Function. All the processes within an ecosystem through which the elements interact, such as succession, the food chain, fire, weather, and the hydrologic cycle.

Game Species. Any species of wildlife or fish that is harvested according to prescribed limits and seasons.

Geomorphic Processes. Processes that change the form of the earth, such as volcanic activity, running water, and glacial action.

Geomorphology. The science that deals with the relief features of the earth's surfaces.

GIS (geographic information systems). GIS is both a database designed to handle geographic data as well as a set of computer operations that can be used to analyze the data. In a sense, GIS can be thought of as a higher order map.

Goal. A concise statement that articulates a desired condition to be achieved sometime in the future. It is normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be completed. Goal statement form the principal basis from which objectives are developed.

Goods and Services. The various outputs, including on-site users, produced from forest and rangeland resources.

Ground Fire. A fire that burns along the forest floor and does not affect trees with thick bark or high crowns.

Ground Water. The supply of fresh water under the earth's surface in an aquifer or in the soil.

Guidelines. An indication or outline (as by a government) of policy or conduct.

Habitat. The area where a plant or animal lives and grows under natural conditions.

Habitat Capability. The ability of a land area or plant community to support a given species of wildlife.

Habitat Diversity. A number of different types of wildlife habitat within a given area.

Habitat Diversity Index. A measure of improvement in habitat diversity.

Habitat Type. A way to classify land area. A habitat can support certain climax vegetation, both trees and undergrowth species. Habitat typing can indicate the biological potential of a site.

Healthy Ecosystem. An ecosystem in which structure and functions allow the maintenance of biological diversity, biotic integrity, and ecological processes over time.

Horizontal Diversity. The distribution and abundance of plant and animal communities or different stages of plant succession across an area of land. The greater the numbers of communities in a given area, the higher the degree of horizontal diversity.

Human Dimension. An integral component of Ecosystem Management that recognizes people are part of ecosystems, that people's pursuits of past, present and future desires, needs and values (including perceptions, beliefs, attitudes and behaviors) have and will continue to influence ecosystems and that ecosystem management must include consideration of the physical, emotional, mental, spiritual, social, cultural and economic well-being of people and communities.

Hydrologic Cycle. Also called the water cycle, this is the process of water evaporating, condensing, falling to the ground as precipitation, and returning to the ocean as run-off.

Hydrology. The science dealing with the study of water on the surface of the land, in the soil and underlying rocks and in the atmosphere.

Igneous Rock. Rocks formed when high temperature, molten mineral matter cooled and solidified.

Indicator Species. A plant or animal species related to a particular kind of environment. Its presence indicates that specific habitat conditions are also present.

Indigenous (species). Any species of wildlife native to a given land or water area by natural occurrence.

Induced Edge. An edge that results from the meeting of two successional stages of vegetative conditions within a plant community. These can be created by disturbance, i.e., grazing, timber harvest, fire, insect outbreaks.

Inherent Edge. An edge that results from the meeting of two plant community types. These often result from abrupt changes in soil type, topographic differences, geomorphic differences, and changes in microclimate.

Instream Flow. The quantity of water necessary to meet seasonal stream flow requirements to accomplish the purposes of the National Forests, including, but not limited to fisheries, visual quality, and recreational opportunities.

Integrated Pest Management. A process for selecting strategies to regulate pests in which all aspects of a pest-host system are studied and weighed. The information considered in selecting appropriate strategies includes the impact of the unregulated pest population on various resource values, alternative regulatory tactics and strategies, and benefit/cost estimates for these alternative strategies. A basic principle in the choice of strategy is that it be ecologically compatible or acceptable.

Interdisciplinary Team. A team of individuals with skills from different disciplines that focuses on the same task or project.

Intermittent Stream. A stream that flows only at certain times of the year when it receives water from streams or from some surface source, such as melting snow.

Intermountain Region. The portion of the USDA Forest Service, also referred to as Region Four, that includes National Forests in Utah, Nevada, southern Idaho and southwestern Wyoming.

Irretrievable. Applies to losses of production, harvest or commitment of renewable natural resources. For example, some or all of the timber production from an area is irretrievably lost during the time an area is used as a winter sports site. If the use is changed, timber production can be resumed. The production lost is irretrievable, but the action is not irreversible.

Irreversible. Applies primarily to the use of nonrenewable resources, such as minerals or cultural resources, or to those factors that are renewable only over long time spans, such as soil productivity. Irreversible also includes loss of future options.

Issue. A point, matter or question of public discussion or interest to be addressed or decided through the planning process.

Preliminary issue is an issue identified early in the scoping phase and is sometimes referred to as a tentative issue.

Significant issue is an issue within the scope of the proposed action which is used to formulate alternatives in an Environmental Analysis (EA) or Environmental Impact Statement (EIS).

Kuchler Vegetation Types. Potential natural vegetation of the United States, classified by Kuchler.

Land-Aquatic Type Associations. Code numbers given to a mapped unit of land in which land forms, soils, vegetation and water have the dominating influence.

Land Class. The topographic relief of a unit of land. Land classes are separated by slope. This coincides with the timber inventory process. The three land classes used in the Forest Plan are defined by the following slope ranges: 0 to 35%, 36-55%, and greater than 55%.

Land Use Class. The predominant purpose for which an area is used, i.e., agricultural land, forest land, rangeland, wetland, urban and suburban, roads, railroads or utility corridor.

Landform. Any physical feature of the earth's surface having a characteristic, recognizable shape and produced by natural causes. Landform is one criteria used in determining the capability and suitability of lands to produce resources and accommodate management activities.

Landline. The boundary lines for National Forest land.

Landscape. A large land area composed of interacting ecosystems that are repeated due to factors such as geology, soils, climate, and human impacts. Landscapes are often used for coarse grain analysis.

Landscape Ecology. A study of the principles concerning structure, function and change of landscapes, and the use of these principles in the formulation and solving of problems; the body of knowledge pertaining to the structure, function and change of spatial patterns in ecosystems.

Landtype Associations . (LTAs) are groupings of landtypes or subdivisions of Subsections, based upon similarities in geomorphic process, geologic rock type, soil complexes, stream types, lakes, wetlands, and series, subseries, or plant association in vegetation communities. Repeatable patterns of soil complexes and plant communities are useful in delineating map units at this level. Names of LTAs are often derived from geomorphic history and vegetation community.

Land Use Planning. The process of organizing the use of lands and their resources to best meet people's needs over time, according to the land's capabilities.

Legal Notice. A notice of a decision, which can be appealed, that is published in the Federal Register or in the legal notice section of a newspaper of general circulation.

Lichen. Any of the various flowerless plants composed of fungi and algae, commonly growing in flat patches on rocks, trees, etc.

Life Zone. Areas of "belts" of land that have distinct plant and animal characteristics determined by elevation, latitude, and climate. When ascending a high mountain, you will pass through these life zones.

Litter. The freshly fallen or only slightly decomposed plant material on the ground. This layer includes foliage, bark fragments, twigs, flowers and fruit.

Macro Climate. The general, large scale climate of a large area, as distinguished from the smaller scale micro climates within it.

Macroinvertebrate Biotic Condition Index. An index that compares the tolerance or sensitivity to pollution of an existing community of macroinvertebrates to the predicted potential tolerance of a community of undisturbed conditions for a given stream. Generally reflects the condition of the aquatic ecosystem.

Management Action. Any activity undertaken as part of the administration of the National Forest.

Management Concern. An issue, problem or a condition which constrains the range of management practices identified by the Forest Service in the planning process.

Management Direction. A statement of multiple-use and other goals and objectives, the associated management prescriptions, and standards and guidelines for attaining them.

Management Indicator Species. See MIS

Management Intensity. A management practice or combination of management practices and associated costs designed to obtain different levels of goods and services.

Management Practice. A specific action, measure, course of action or treatment.

Management Prescription. Management practices and intensity selected and scheduled for application on a specific area to attain multiple-use and other goals and objectives.

Market-Value Outputs. Goods and services valued in terms of what people are willing to pay for them rather than go without, as evidenced by market transactions.

Mass Movement/Wasting. The down-slope movement of large masses of earth material by the force of gravity. Also called a landslide.

Mass Stability. The existing condition of the soil mantle related to the potential for land mass failure such as landslides, mud flows and debris slides.

Matrix. The least fragmented, most continuous pattern element of a landscape; the vegetation type that is most continuous over a landscape.

Maximum Modification. See "Visual Quality Objectives."

Micro climate. The climate of a small site. It may differ from the climate at large of the area due to aspect, tree cover (or the absence of tree cover), or exposure to winds.

Middleground. A term used in the management of visual resources, or scenery. It refers to the visible terrain beyond the foreground where individual trees are still visible but do not stand out distinctly from the stand.

Mineral Soil. Soil that consists mainly of inorganic material, such as weathered rock, rather than organic matter.

MIS (management indicator species). A wildlife species whose population indicate the health of the ecosystem in which it lives and, consequently, the effects of forest management activities to that ecosystem. MIS are selected by land management agencies. (See indicator species.)

Mission (of the USDA Forest Service). "To care for the land and serve people. As set forth in law, the mission is to achieve quality land management under the sustainable multiple-use management concept to meet the diverse needs of people.

Mitigate/mitigation. To lessen the severity. Actions taken to avoid, minimize or rectify the impact of a land management practice.

Modification. A visual quality objective; management activities may visually dominate the original characteristic landscape, but they must borrow from naturally established form, line, color or texture so that the activity blends with the surrounding area.

Monitoring. The determination of how well project or plan objectives have been met and how closely management practices should be adjusted. (See adaptive management.) There are three types of monitoring:

- Implementation
- Effectiveness
- Validation

Multiple-Use. The management of all the various renewable surface resources of the National Forest System lands for a variety of purposes such as recreation, range, timber, wildlife and fish habitat, and watershed.

National Environmental Policy Act (NEPA). This is the basic national charter for protection of the environment. It establishes policy, sets goals and provides means for carrying out the policy.

National Forest Management Act (NFMA). These are rules that require an integration of planning for National Forests and Grasslands, including the planning for timber, range, fish and wildlife, water, wilderness, recreation resources, together with resource protection activities, such as fire management, and the use of other resources, such as minerals.

National Forest System (NFS) Land. Federal lands that have been designated by Executive Order or statute as National Forests, National Grasslands, Purchase Units, and other lands under the administration of the Forest Service, including Experimental Areas and Bankhead-Jones Title III lands.

Natural Barrier. A natural feature, such as a dense stand of trees or downfall, that will restrict animal travel.

Natural Disturbance. See disturbance.

Natural Range of Variability. See Range of variability.

Natural Resource. A feature of the natural environment that is of value in serving human needs.

Nest Survey. A way to estimate the size of a bird population by counting the number of nests in a given area.

Net Public Benefits. An expression used to signify the overall long-term value to the Nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively valued or not. Net public benefits are measured by both quantitative and qualitative criteria rather than a single measure or index. The maximization of net public benefits to be derived from management of units of the National Forest System is consistent with the principle of multiple-use and sustained-yield.

No Action Alternative. The most likely condition expected to exist in the future if management practices continue unchanged.

Non-consumptive Use. The use of a resource that does not reduce its supply; for example, non-consumptive uses of water include hydroelectric power generation, boating, swimming and fishing.

Non-game. Species of animals not managed for sport hunting.

Non-market-Valued Outputs. Goods and services not generally traded in the marketplace, but valued in terms of what reasonable people would be willing to pay for them rather than go without. Those obtaining the actual outputs do not necessarily pay what they would be willing to pay for them.

Non-point Source Pollution. Pollution whose source is not specific in location. The sources of discharge are dispersed, not well-defined, or constant. Rain storms and snow melt often make

this type of pollution worse. Examples include sediments from logging activities, and runoff from agricultural chemicals.

Non-renewable Resource. A resource whose total quantity does not increase measurably over time, so that each use of the resource diminishes the supply.

Notice of Intent. A notice printed in the Federal Register announcing that an Environmental Impact Statement (EIS) will be prepared.

Nutrient Cycle. The circulation of chemical elements and compounds, such as carbon and nitrogen, in specific pathways from the non-living parts of ecosystems into the organic substances of the living parts of ecosystems, and then back again to the non-living parts of the ecosystem. For example, nitrogen in wood is returned to the soil as the dead tree decays; the nitrogen again becomes available to living organisms in the soil, and upon their death, the nitrogen is available to plants growing in that soil.

Objective. Objectives are expressed as specific actions that include a timing component for completion, generally defined in terms of when the Record of Decision is signed for the Plan.

Off-Road Vehicles (ORV's). Vehicles such as motorcycles, all-terrain vehicles, four-wheel drive vehicles and snowmobiles.

Opportunities. Ways to address or resolve public issues or management concerns in the land and resource management planning process.

Optimum. A level of production that is consistent with other resource requirements as constrained by environmental, social, and economically sound conditions.

Organic Soil. Soil at least partly derived from living matter, such as decayed plant material.

Output. One of the ways functions are described; resources which leave a system, i.e., animals migrating out of an area, mass erosion, removal of commercial timber from an area.

Overstory. The upper canopy layer; the plants below comprise the understory.

Paleontological Resource. Any remains, trace or imprint of a plant or animal that has been preserved in the Earth's crust since some past geologic time.

Parent Material. The mineral or organic matter from which the upper layers of soil are formed.

Partial Retention. A visual quality objective which, in general, means human activities may be evident, but must remain subordinate to the characteristic landscape.

Particulates. Small particles suspended in the air and generally considered pollutants.

Patch. An area of homogenous vegetation, in structure and composition.

Percolation. Downward flow or infiltration of water through the pores or spaces of rock or soil.

Perennial Stream. A stream that flows throughout the year and from source to mouth.

Permitted Grazing. Grazing on a National Forest range allotment under the terms of a grazing permit.

Persons-At-One-Time (PAOT). A recreation capacity measurement term indicating the number of people who can use a facility or area at one time.

Planning Area. The area covered by a Regional Guide or Forest Plan.

Planning Corridor. A general broad linear area of land used to evaluate where a specific right-of-way could be placed.

Planning Period. The 50-year time frame for which goods, services, and effects were projected in the development of the Forest Plan.

Planning Regulations. The rules which guide land and resource management planning (Forest Plans) on the National Forests.

Plant Association. A potential natural plant community of definite floristic composition and uniform appearance.

Plant Community. A group of one or more populations of plants in a common spatial arrangement.

Plant Species. The major subdivision of a genus or subgenus of a plant being described or measured.

PNV. See present net value.

Policy. A guiding principle that is based on a specific decision or set of decisions.

Pool. A portion of the stream with reduced current velocity, often with water deeper than the surrounding areas, which is frequently used by fish for resting and cover.

Pool-Riffle Ratio. The ratio of the length or percent of pool habitat divided by the length or percent of riffle habitat.

Potential Natural Community. The biotic community that would be established if all successional sequences of its ecosystem were completed without additional human-made disturbance under present environmental conditions. Grazing by native fauna, natural disturbances, such as drought, floods, wildfire, insects and disease are inherent in the development of potential natural communities which may include naturalized non native species. The potential natural community and its environmental characteristics provide a reference standard to which existing seral communities can be related.

Potential Natural Vegetation. The vegetation that would exist today if man were removed from the scene and if the plant succession after his removal were telescoped into a single moment. The time compression eliminates the effects of future climatic fluctuations, while the effects of man's earlier activities are permitted to stand.

Practice (Also Management Practice). A specific activity, measure, course of action, or treatment.

Predator. An animal at or near the top of food chains that lives by preying on other animals.

Pre-existing Use. Land use that may not conform to a zoning ordinance but existed prior to the enactment of the ordinance.

Prescribed Fire. Fire set intentionally in wildland fuels under prescribed conditions and circumstances. Prescribed fire can rejuvenate forage for livestock and wildlife or prepare sites for natural regeneration of trees.

Prescription. Management practices selected to accomplish specific land and resource management objectives.

Present Net Value. Also called present net worth. The measure of the economic value of a project when costs and revenues occur in different time periods. Future revenues and costs are "discounted" to the present by an interest rate that reflects the changing value of a dollar over time. The assumption is that dollars today are more valuable dollars in the future. PNV is used to compare project alternatives that have different cost and revenue flow.

Preservation. See "Visual Quality Objectives."

Presuppression. Activities in advance of fire occurrence to assure effective suppression action.

Primary Base Series. A topographic map series that includes culture, drainage, land net ownership, and contours and is prepared on a stable base film. The map series is used to produce Forest Service cartographic products used in managing National Forest System lands. Similar maps are available for other lands.

Primitive ROS (Recreation Opportunity Spectrum). A classification of wilderness and recreation opportunity. It is characterized by an essentially unmodified environment, where trails may be present but structures are rare, and where it is highly probable to be isolated from the sights and sounds of people. (See ROS.)

Production. One of the ways functions are described; resource which are "manufactured" within the system (i.e., plant growth, animal reproduction, snags falling and becoming down woody material).

Production, Forage. Annual production of herbage, shrubs, woody vines, and trees which may provide food for grazing animals or harvested for feeding. Forage production is expressed in pounds per acre per year and is used to determine available food supply for grazing animals.

Productivity. The ability of an area to provide goods and services and to sustain ecological values; the growth rate of biomass per unit area, usually expressed in terms of weight or energy.

Production Potential. The capability of land or water to produce a given resource.

Program. When capitalized, the Renewable Resource Program required by the RPA. Generally, sets of activities or projects with specific objectives, defined in terms of specific results and responsibility for accomplishment.

Properly Functioning Condition. The condition of a resource or ecosystem at any temporal or spatial scale when they are dynamic and resilient to disturbances to structure, composition and processes of their biological or physical components.

Proposal. Exists at the stage in the development of an action when an agency is actively preparing to make a decision on one or more alternative means of accomplishing a goal and the effects can be meaningfully evaluated.

Proposed Action. A proposal by the Forest Service to authorize, recommend or implement an action.

Public Access. An indication if the property is posted or restricted from public use.

Public Domain. The territory ceded to the Federal government by the original thirteen states, plus additions by treaty, cession, and purchase.

Public Issue. A subject or questions of widespread public interest relating to management of the National Forest System.

Public Land. Land for which title and control rests with a government - federal, state, regional, county or municipal.

Public Participation. Meeting, conferences, seminars, workshops, tours, written comments, responses to survey questionnaires, and similar activities designed and held to obtain comments from the public about Forest Service planning and decisionmaking.

Purpose and Need. A statement which briefly specifies the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.

Range. Land on which the principle natural plant cover is composed of native grasses, forbs, and shrubs that area available as forage for big game and livestock.

Range Allotment. See *Allotment*.

Range Management. The art and science of planning and directing range use intended to yield the sustained maximum animal production and perpetuation of the natural resources.

Range of Variability. (Natural Variability, Historical Variability.) The components of healthy ecosystems fluctuate over time. The range of sustainable conditions in an ecosystem is

determined by time, processes such as fire, native species, and the land itself. For instance, ecosystems that have a 10-year fire cycle have a narrower range of variation than ecosystems with 200-300 year fire cycles. Past management has placed some ecosystems outside their range of variability. Future management should move such ecosystems back toward their natural, sustainable range of variation.

Ranger District. The administrative sub-unit of a National Forest that is supervised by a District Ranger who reports directly to the Forest Supervisor.

Raptor. A bird of prey, such as an eagle or hawk.

Real Dollar Value. A monetary value that compensates for the effects of inflation.

Recharge. The addition of water to ground water by natural or artificial processes.

Recreation Capacity. The number of people that can take advantage of any supply of recreation opportunity at any one time without substantially diminishing the quality of the experience.

Recreation Opportunity Class. An assessment of the general potential of the site for outdoor recreation. The following minimum number of classes are recognized:

Primitive - Area is characterized by essentially unmodified natural environment with a high probability of experiencing isolation from the sights and sounds of man.

Semi-primitive - Area is characterized by a predominantly natural or natural-appearing environment with a moderate probability of experiencing isolation from the sights and sounds of man. Semi-primitive can be motorized or non-motorized.

Roaded Natural - Area is characterized by a predominantly natural or natural-appearing environment with a low probability of experiencing isolation from the sights and sounds of man.

Rural - Area is characterized by a substantially modified natural environment with a low probability of experiencing isolation from the sights and sounds of man.

Urban - Area is characterized by a substantially urbanized environment, although the background may have natural-appearing elements, i.e. ski resorts.

Recreation Types:

Developed Recreation. The type of recreation that occurs where modifications (improvements) enhance recreation opportunities and accommodate intensive recreation activities in a defined area.

Dispersed Recreation. That type of recreation use that requires few, if any, improvements and may occur over a wide area. This type of recreation involves activities related to roads and trails. The activities do not necessarily take place on or adjacent to a road or trail, only in conjunction with it. Activities tend to be day-use oriented and include hunting, fishing,

berrypicking, off-road vehicle use, hiking, horseback riding, picnicking, camping, viewing scenery, snowmobiling, and many others.

Recreation Visitor Day (RVD). Twelve visitor hours, which may be aggregated continuously, intermittently, or simultaneously by one or more persons.

Regionalization. A mapping procedure in which a set of criteria are used to subdivide the earth's surface into smaller, more homogeneous units that display spatial patterns related to ecosystem structure, composition, and function.

Regional Analysis Areas. Geographic areas within the Region that encompass several Forest or Grasslands.

Regional Forester. The official of the USDA Forest Service responsible for administering an entire region of the Forest Service.

Regulations. Generally refers to the Code of Federal Regulations, Title 36, Chapter II, which covers management of the Forest Service.

Resilience. The ability of an ecosystem to return to or maintain diversity, integrity and ecological processes following disturbance.

Responsible Official. The Forest Service employee who has been delegated the authority to carry out a specific planning action.

Restoration. Actions taken to modify an ecosystem in whole or in part to achieve a desired condition.

Retention. A visual quality objective; management activities that are not visually evident; activities repeat form, line, color, and texture characteristics found in the landscape.

Revegetation. The re-establishment and development of a plant cover by either natural or artificial means, such as re-seeding.

Riffle. A shallow rapids where the water flows swiftly over completely or partially submerged obstructions to produce surface agitation, but standing waves are absent.

Right-of-Way. An accurately located strip of land with defined width, point of beginning, and point of ending. It is the area within which the user has authority to conduct operations approved or granted by the landowner in an authorizing document, such as a permit, easement, lease, license, or Memorandum of Understanding (MOU).

Riparian Area. The area along a watercourse or around a lake or pond.

Riparian Ecosystem. The ecosystems around or next to water areas that support unique vegetation and animal communities as a result of the influence of water.

Road System. An alpha code indicating primary systems designation where primary indicates the system under which principle funding and management criteria for operation and maintenance of a road is derived.

ROD. Record of Decision. An official document in which a deciding official states the alternative that will be implemented from a prepared EIS.

ROS. Recreation Opportunity Spectrum. The land classification system that categorizes land by its setting and the probable recreation experiences and activities it affords. (See Recreation Opportunity Class.)

RPA. The Forest and Rangeland Renewable Resources Planning Act of 1974. Also refers to the National Assessment and Recommended Program developed to fulfill the requirements of this Act.

Run-off. The portion of precipitation that flows over the land surface or in open channels.

Scale. In ecosystem management, scale refers to the degree of resolution at which ecosystems are observed and measured.

Scoping. The on-going process to determine public opinion, receive comments and suggestions, and determine issues during the environmental analysis process. It may involve public meetings, telephone conversations or letters.

Sensitive Species. Plant or animal species which are susceptible to habitat changes or impacts from activities. The official designation is made by the USDA Forest Service at the Region level and is not part of the designation of Threatened or Endangered Species made by the U.S. Fish & Wildlife Service.

Sensitivity Level. A particular degree of measure of viewer interest in scenic qualities of the landscape. Three sensitivity levels are employed, each identifying a different level of user concern for the visual environment:

- Level 1 - Highest Sensitivity
- Level 2 - Average Sensitivity
- Level 3 - Lowest Sensitivity

Seral. The stage of succession of a plant or animal community that is transitional. If left alone, the seral stage will give way to another plant or animal community that represents a further stage of succession.

Shade-Intolerant Plants. Plant species that do not germinate or grow well in shade.

Shade-Tolerant Plants. Plants that grow well in shade.

Significance. As used in NEPA, requires consideration of both context and intensity of effects.

Similar Actions. Actions, which when viewed with other reasonable foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as timing or geography.

Sinuosity. The ratio of a stream's channel length to valley length.

Slump. A landslide where the underlying rock masses tilt back as they slide from a cliff or escarpment.

Small Game. Birds and small mammals typically hunted or trapped.

Smoke Management. Application of fire intensities and meteorological processes to minimize degradation of air quality during prescribed fires.

Soil Compaction. A physical change in soil properties that results in a decrease in porosity and increase in soil bulk density and soil strength.

Soil Cover. The type of cover on the soil surface, i.e. live vegetation, litter, rock, pavement, exposed.

Soil Displacement. The movement of the forest floor (litter, duff, and humus layers) and surface soil from one place to another by mechanical forests such as a blade used in piling or windrowing. Mining of surface soil layers by disking, chopping, or bedding operation are not considered displacement.

Soil Drainage Class. Natural soil drainage refers to the rapidity and extent of the removal of water from the soil, in relation to incoming water. This is especially true of water by surface runoff and by flow through the soil to underground spaces. Soil drainage, as a condition of the soil, refers to the frequency and duration of periods when soil is free of saturation or partial saturation.

Soil Erosion Type. A classification system that further defines erosion by running water, wind or gravitational creep that is used to determine watershed condition.

Soil Map Unit. A named portion of a landscape shown by a closed delineation and symbol on a soil map. Generally used to assess or monitor watershed condition, site productivity, and site capability.

Soil Puddling. A physical change in soil properties due to shearing forces that alters soil structure and porosity. Puddling occurs when the soil is at or near liquid limit.

Soil, Severely Burned. A condition where most woody debris and the entire Forest floor is consumed down to bare mineral soil. Soil may have turned red due to extreme heat. Also, fine roots and organic matter are charred in the upper one-half inch of mineral soil.

Soil Structure. Structure is described by grade, class and type. Terms are used to describe the natural aggregates in the soil called “peds” in contrast to clods caused by disturbance, fragments by rupture of peds, and concentrations by local concentrations of compounds that irreversibly

cement the soil grains together. The six structures, each with its own distinctive shape and arrangement, are: granular, platy, prismatic, columnar, angular blocky, subangular blocky, and structureless.

Soil Texture. Texture refers to the relative proportions of clay, silt and sand (less than 2mm in diameter). Clay particles are the smallest, silt particles are intermediate and sand particles are the largest. Loams contain various mixtures of the three basic particle sizes.

Soil and Water Conservation Practices (SWCPs). See BMP.

Soil Compaction. The reduction of soil volume. For instance, the weight of heavy equipment on soils can compact the soil and thereby change it in some ways, such as its ability to absorb water.

Soil Productivity. The capacity of a soil to produce a specific crop. Productivity depends on adequate moisture and soil nutrients, as well as favorable climate.

Special Use Permit. A permit issued to an individual or group by the USDA Forest Service for use of National Forest land for a special purpose. Examples might be a Boy Scout Jamboree or a mountain bike race.

Standards. Requirements found in a Forest Plan that impose limits on natural resource management activities, generally for environmental protection.

State Air Quality Regulations. The legal base for control of air pollution sources in that State. Prescribed burning is generally covered under these regulations.

State Implementation Plan. A State plan that covers implementation, maintenance, and enforcement of primary and secondary standards in each air quality control Region, pursuant to section 110 of the Clean Air Act.

Stewardship. Caring for land and associated resources and passing healthy ecosystems to future generations.

Storage. One of the ways functions are described; resources which are conserved within the system (i.e., sediments and water retained in wetlands, carbon and other nutrient storage in down woody material).

Stream Order. A numbering scheme used to characterize the relative position of stream channels within a drainage. First-order streams are those which have no tributaries. Second-order streams are those which have as tributaries only first-order channels. Third-order streams are formed when two second-order channels come together. Stream order is used to analyze hydrologic response and fisheries.

Stream Type. Alpha-numeric identification given to reoccurring stream channel types based on measurable morphological features such as channel gradient, width/depth ratio, dominant particle size of bed and bank materials, entrenchment of channel and confinement of channel in valley, and landform features, soil erodibility, and stability.

Stream Width. The width of streams or rivers. Generally used to determine stream type, flood hazard, instream flows, and riparian management.

Streamflow. A measure of the volume of water passing a given point in a stream channel at a given point in time.

Stringer. A strip of vegetation different from surrounding vegetation, such as a stringer of aspen in an area of spruce.

Structure. How the parts of ecosystems are arranged, both horizontally and vertically. These parts include vegetation patches, edge, fragmentation, canopy layers, snags, down wood, steep canyons, rocks in streams, and roads. For example, structure might reveal a pattern, mosaic or total randomness of vegetation.

Subsections – A subsection is an ecological subdivision of land that has similar geology, lithology, geomorphic processes, soil groups, subregional climate, and potential natural communities.

Succession. The natural replacement, in time, of one plant community with another. Conditions of the prior plant community (or successional stage) create conditions that are favorable for the establishment of the next stage.

Successional Stage. A stage of development of a plant community as it moves from bare ground to climax. The grass-forbs stage of succession precedes the woody shrub stage and so on.

Suitability. The appropriateness of certain resource management practices to an area of land. Suitability can be determined by environmental and economic analysis of management practices.

Suppression. The action of extinguishing or confining a fire.

Surface Fire. Fire that burns loose debris of the surface, which includes dead branches, leaves and low vegetation.

Surface Resources. Renewable resources that are on the surface of the earth, such as timber and forage, in contrast to ground water and minerals which are located beneath the surface.

Suspended Sediment. Sediment which remains in suspension in the water for a considerable period of time without contact with the bottom of the water source and is generally recorded in parts per million or milligrams per liter.

Sustainability. The ability of an ecosystem to maintain ecological processes and functions, biological diversity, and productivity over time.

Sustainable. The yield that a renewable resource can produce continuously at a given intensity of management is said to be sustainable.

Sustained-Yield. The yield that a renewable resource can produce continuously at a given intensity of management.

Target. A National Forest's annual goal for accomplishment for natural resource programs. Targets represent the commitment of the Forest Service has with Congress to accomplish the work Congress has funded, and are often used as a measure of the agency's performance.

Threatened and Endangered Species Habitat. Those areas currently or potentially occupied or utilized by threatened and endangered species. T&E Species habitat generally falls into one of several categories: critical habitat, proposed critical habitat, occupied habitat, or potential habitat.

Threatened Species. Those plant or animal species likely to become endangered species throughout all or a significant portion of their range within the foreseeable future as designated by the U.S. Fish & Wildlife Service under the Endangered Species Act of 1973.

Time Since Disturbance. The number of years between when the most recent disturbance took place (stand history) and the current time that is used to determine successional trends. Elements include age of sprouts on stumps or damaged trees, color and condition of resin on the stump, stage of decay, bark tightness and tree age.

Treatment Area. The site-specific location of a resource improvement activity.

Trend. The direction of change in ecological status of a plant community usually expressed as moving "toward", "away from", or "not apparent".

Turbidity. A measure of the optical property that causes light to be scattered and absorbed rather than transmitted in straight lines.

Type Conversion. The conversion of the dominant vegetation in an area from forested to non-forested or from one species to another.

Underburn. A burn by a surface fire that can consume ground vegetation and "ladder" fuels.

Understory. The trees and woody shrubs growing beneath the overstory in a stand of trees.

Use, allowable. An estimate of proper range use. Fifty percent of the annual growth is often used as a rule of thumb on ranges in good to excellent condition. It can also mean the amount of forage planned to be used to accelerate range rehabilitation.

Utility and Transportation Corridors. A strip of land, up to approximately 600 feet in width, designated for the transportation of energy, commodities, and communications by railroad, State highway, electrical power transmission (66 KV and above), oil and gas and coal slurry pipelines 10 inches in diameter or larger, and telecommunication cable and electronic sites for interstate use. Transportation of minor amounts of power for short distances, such as short feeder lines from small power projects including geothermal or wind, or to serve customer service substations along the line, are not to be treated within the Forest Plan effort.

Utilization. The proportion of current year's forage production that is consumed or destroyed by grazing animals. May refer either to a single species or to the vegetation as a whole. When expressed in percent use, usually refers to a dry weight percentage of current years growth.

Variability. (Natural variability, historic variability, range of variability) The observed limits of change in composition, structure, and function of an ecosystem over time as influenced by frequency, magnitude and pattern of disturbance.

Variety Class. A way to classify landscapes according to their visual features. This system is based on the premise that landscapes with the greatest variety of diversity have the greatest potential for scenic value.

Vegetation Management. Activities designed primarily to promote the health of forest vegetation for multiple-use purposes.

Vegetation Type. A plant community with distinguishable characteristics.

Vegetative Structural Stage. A method of describing the growth stages of a stand of living trees or vegetation.

Vertical Diversity. The diversity in a stand that results from the complexity of the above-ground structure of the vegetation; the more tiers of vegetation or the more diverse the species makeup, or both, the higher the degree of vertical diversity.

Vertical Fuel Arrangement. Fuels above the ground and their vertical continuity, which influences fire reaching various vegetation strata.

Viable Population. A number of individuals of a species sufficient to ensure the long-term existence of the species in natural, self-sustaining populations adequately distributed throughout their region.

Visual Quality. Degree of obstruction or contrast degradation of viewing a scene due to air contaminants or weather.

Visual Quality Objectives (VQO's). A set of measurable goals for the management of forest visual resources used to measure the amount of visual contrast with the natural landscape caused by human activities. The following are VQOs:

1. Preservation -- Ecological change only here.
2. Retention -- Human activities should not be evident to the casual Forest visitor.
3. Partial Retention -- Human activity may be evident but must remain subordinate to the characteristic landscape.
4. Modification -- Human activity may dominate the characteristic landscape but must, at the same time, follow naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed in foreground or middleground.
5. Maximum Modification -- Human activity may dominate the characteristic landscape but should appear as a natural occurrence when viewed as background.

Visual Resource. A part of the landscape important for its scenic quality. It may include a composite of terrain, geologic features, or vegetation.

Visual Resource Management Class. An assessment of the relative visual resource quality on National Forest system lands as it relates to potential resource use and/or development. (See Visual Quality Objectives).

Watershed. The entire region drained by a waterway (or into a lake or reservoir). More specifically, a watershed is an area of land above a given point on a stream that contributes water to the streamflow at that point.

Water Table. The upper surface of groundwater. Below it, the soil is saturated with water.

Water Uses. The status of water uses subject to State water laws that is used to determine the water uses and legal status of waters on the National Forests.

Water Yield. The run-off from a watershed, including groundwater outflow.

Wet Areas. Often referred to as "moist sites," they are very important components of elk summer range. These sites, often occurring at the heads of drainages, may be wet sedge meadows, bogs, or seeps.

Wetlands. Areas that are permanently wet or are intermittently covered with water.

Wilderness (Wilderness Area). Undeveloped federal land retaining its primeval character, without permanent human habitation or improvements; It is protected and managed to preserve its natural condition. Wilderness Areas are designated by Congress.

Wildfire. Any wildland fire that is not a prescribed fire.

Wildfire For Resource Benefit. Naturally ignited fire that burns under specified conditions that allow the fire to be confined to a predetermined area and produce fire behavior and fire characteristics to attain planned fire treatment and resource management objectives.

Wildland/Urban Interface. The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

Wildlife and Fish User Days (WFUD). A 12-hour day in which a person participates in a wildlife- or fish-related recreation activity that used to determine the annual use of wildlife and fish resources by recreationists on the National Forests.

Wildlife Habitat Diversity. The distribution and abundance of different plant and animal communities and species within a specific area.

ZOI (Zone of Influence). The areas influenced by Forest Service management activities.

INDEX

Index to the Curlew Grassland Plan

A

access..... 3-14
adaptive management 1-3, 1-4, 4-17, 5-3
American Indian..... 3-14
Analysis of the Management Situation 2-1 - 2-7

B

Bankhead-Jones Farm Tenant Act..... 1-2, 2-2
bulbous bluegrass 2-2, 2-3, 2-8, 2-11, 2-12, 3-4,
3-8, 3-9, 4-3, 4-16, 5-2, 5-5

C

cheatgrass..... 3-9
Clean Air Act 1-3, 3-5
Clean Water Act..... 1-3, 2-2, 3-5, 4-9, 5-3

D

Detrimental Soil Disturbance 3-4

E

ecological sustainability..... 1-2, 1-3
emergency events 3-2, 4-4
Endangered Species Act..... 1-3

F

fish..... 2-2, 3-10, 3-11, 4-6 - 4-9

H

herbicides 2-11, 3-11, 4-15, 5-2, 5-3
Heritage Resources..... 3-16
Homestead Act..... 1-2
horsebrush..... 3-9

I

implementation..... 5-1, 5-2

L

Livestock Management ... 2-12, 3-18, 4-9, 4-17,
5-6

M

management indicator species 2-4, 2-5, 3-12, 5-
5
management prescription..... 4-4
microbiotic crusts 3-4, 5-4
Monitoring 1-3, 1-4, 5-3 - 5-6
Multiple-Use Sustained-Yield Act 1-2

N

National Forest Management Act..... 1-1 - 1-4
Needs for Change 2-8 - 2-9
noxious weeds 3-8, 3-9

O

Organic Act..... 1-1

P

PRESCRIPTION 2.8.8..... 4-6
PRESCRIPTION 3.4.1 4-10
PRESCRIPTION 4.1.2..... 4-12
PRESCRIPTION 6.5..... 4-14
PRESCRIPTION 8.1.2..... 4-18
Properly Functioning Condition. 2-1 - 2-3, 2-7,
3-2, 3-11, 4-9, 5-5

R

rabbitbrush 3-9
recreation 2-12, 3-15, 4-12 - 4-13, 5-6
riparian areas .. 2-10, 3-6, 3-10 - 3-11, 4-6 - 4-9
riparian pastures 4-7, 4-9, 5-5, 5-6
Riparian/Wetland Areas..... 3-15, 4-6
Road Management Objectives 1-5
Roads Analysis 1-5, 2-6, 3-7, 3-14

Roads Policy 1-5

S

Sage grouse.....2-4 - 2-6, 2-8 - 2-11, 3-9, 3-12, 4-14 - 4-16, 5-5

Sagebrush.....2-3 - 2-5, 2-7, 2-11, 3-8 - 3-13, 3-18, 4-14 - 4-17, 5-1 - 5-6

 threetip 3-9

scenic quality..... 3-15

Sensitive Species 2-4, 3-12

Species at Risk 2-5

Sweeten Pond..... 2-4, 2-6, 4-6, 4-10, 5-2

T

Threatened, Endangered and Proposed Species 2-4, 3-9, 3-11- 3-13

TMDLs 3-6, 4-9

Tribal Trust 1-4, 3-14, 3-16

U

understory diversity...2-4, 2-7, 2-10, 2-12, 3-8, 4-14, 4-16, 5-5, 5-6

utility corridors 1-5, 3-6 - 3-7, 4-18

V

Viability 1-3, 3-11 - 3-13, 4-17

W

water quality1-5, 2-2, 2-7, 2-10, 3-5, 3-6, 3-10, 4-6, 4-9, 5-5

wetlands ...2-2, 2-9, 2-10, 3-10, 3-11, 4-6 - 4-9, 5-5

wilderness 2-1

wildfire.....2-3, 3-3, 4-7, 4-13,

National Direction Applicable to the Grassland

Agency policy articulated in the Forest Service directives system (Forest Service Manual and Handbook) is hereby incorporated in its entirety as direction in this Revised Land and Resource Management Plan for the Curlew National Grassland. Some of the more commonly referenced policy is listed below.

Policy Directives

FSM/FSH

Reference Location

Title

1500

1563

American Indians

2000

2080

Noxious Weed Management

2100

2130.2

Solid Waste Management

2150.2

Pesticide Management

2170.2

Energy Management

2200

2202.1

Range Management

2230.2

Grazing and Livestock Use Permit System

2240.2

Range Improvements

2242.02

Structural Range Improvement

2244.02

Maintenance of Improvement

2246.02

Range Improvement Investment

2300

2302

Recreation

2320.2

National Wilderness Preservation System

2323.34b

Stocking Methods

2323.34c

Stocking Policy

2330.2

Publicly Managed Recreation Opportunities

2340.2

Privately Provided Recreation Opportunities

2343.02

Concession Uses Involving Privately Developed Facilities

2345.02

Group Use By Institutions or other Entities

2350.2

Trail, River, and Similar Recreation Opportunities

2353.02

Forest Development Trails

2353.41

Scenic and Historic Trails

2354.02

National Wild and Scenic Rivers System

2355.02

Off-Road Vehicle Management

2356.02

Cave Management

FSM/FSH	
Reference Location	Title
2360.3	Special Interest Areas
2361.02	Cultural Resources
2373.02	National Registry of National Landmarks
2380.2	Visual Quality
2390.2	Interpretive Services/Visitor Information
2400	
2402	Timber Management
2430.2	Commercial Timber Sales
2435.02	Salvage Sales
2470.02	Reforestation
2470.2	Silvicultural Practices
2470.02	Harvest Cutting
2476.02	Timber Stand Improvement
2500	
2502	Watershed Management
2520.2	Watershed Protection and Management
2522.02	Watershed Improvement
2523.02	Burned Area Emergency Rehabilitation
2526.02	Riparian Areas
2527.02	Floodplain Management Wetland Protection
2532.02	Water Quality Management
2542.02	Municipal Supply Watersheds
2553.02	Soil Resource Improvement
2580.2	Air Quality
2600	
2602	Fish and Wildlife
2650.2	Animal Damage Management
2670.21	Threatened and Endangered Species
2670.22	Sensitive Species
2700	
2702	Special Uses
2710.2	Special Use Authorization
2716	Special Use Administration
2730.2	Special Use Management
2761.02	Withdrawals
2770.2	Federal Power Act Projects
2800	
2802	Minerals and Geology
2830.2	Minerals Reservations Outstanding Mineral Rights
2840.2	Reclamation
2850.2	Mineral Materials
3600	
3602	Rural Development
3610.2	Rural Development
3620.2	Resource Conservation and Development Program
4000	
4063.02	Research Natural Areas
5100	
5102	Fire Management
5130.2	Fire Suppression
5140.2	Prescribed Fire
5150.2	Fuel Management

FSM/FSH**Reference Location Title**

5400

5402	Landownership Adjustment
5420.2	Land Purchases and Donations
5430.2	Land Exchanges
5440.2	Partial Interest Acquisition
5450.2	National Forest System Modification
5460.2	Right-of-Way Acquisition
5470.2	Reservations and Outstanding Rights
5480.2	Condemnation

7100

7151.02	Land Surveying
7152.02	Landline Location Program
7160.2	Sign and Poster Program

7400

7420.2	Potable Water Supply
7430.2	Wastewater Collection systems and Treatment Works

7700

7702	Transportation System
7710.2	Transportation Planning
7720.2	Development
7730	Operation and Maintenance
7733.02	Highway Safety Program
7740	Federal Lands Highway Program

Statutes

American Indian Religious Freedom Act (August 11, 1978)

American with Disabilities Act of 1990

Anderson-Mansfield Reforestation and Revegetation Act (October 11, 1949)

Antiquities Act (June 8, 1906)

Archeological Resources Protection Act (October 31, 1979, as amended 1988)

Architectural Barriers Act of 1968

Bankhead-Jones Farm Tenant Act of 1937 (July 22, 1937)

Clarke-McNary Act of 1924 (June 7, 1924)

Clean Air Act Amendments of 1977 (August 7, 1977)

Clean Water Act of 1977

Clean Water Amendments (Federal Water Pollutions Control Act Amendments of 1972)

Color of Title Act (December 22, 1928)

Common Varieties of Mineral Materials Act (July 31, 1947)

Comprehensive Environmental Response, Compensation and Liability Act, as amended
(December 11, 1980)

Cooperative Forestry Assistance Act of 1978 (July 1, 1978)

Disaster Relief Act of 1974 (May 22, 1974)

Eastern Wilderness Act (January 3, 1975)

Economy Act of 1932 (June 30, 1932)

Emergency Flood Prevention (Agricultural Credit Act of 1978) (August 4, 1978)

Endangered Species Act of 1973 (December 28, 1973)

Energy Security Act (June 30, 1980)

Federal Advisory Committee Act of 1972 (October 6, 1972)
Federal Cave Resources Protection Act of 1988 (November 18, 1988)
Federal Coal Leasing Amendments Act of 1975 (August 4, 1976)
Federal Insecticide, Rodenticide, and Fungicide Act (October 21, 1972)
Federal Land Policy and Management Act of 1976 (October 21, 1976)
Federal Noxious Weed Act of 1974 (January 3, 1975)
Federal Onshore Oil and Gas Leasing Reform Act of 1987 (December 22, 1987)
Federal Power Act of 1920 (June 10, 1920)
Federal-State Cooperation for Soil Conservation Act (December 22, 1944)
Federal Water Pollution Control Act of 1956, as amended (Water Quality Act of 1965,
Clean Water Restoration Act of 1966) (July 9, 1965)
Federal Water Project Recreation Act of 1965 (July 9, 1965)
Fish and Wildlife Conservation Act (September 15, 1960)
Forest Highways Act (August 27, 1958)
Forest and Rangeland Renewable Resources Planning Act of 1974 (August 17, 1974)
Forest and Rangeland Renewable Resources Research Act of 1978 (June 30, 1978)
Freedom of Information Act (November 21, 1974)
Geothermal Steam Act of 1970 (December 24, 1970)
Granger-Thye Act (April 24, 1950)

Historic Preservation Act (October 15, 1966)

Intermodal Surface Transportation Efficiency Act (December 18, 1991)

Joint Surveys of Watershed Areas Act of 1962 (September 5, 1962)

Knutson-Vandenberg Act (June 9, 1930)

Land Acquisition Act (March 3, 1925)
Land Acquisition-Declaration of Taking Act (February 26, 1931)
Land Acquisition-Title Adjustment Act (July 8, 1943)
Land and Water Conservation Fund Act of 1965 (September 3, 1964)
Law Enforcement Authority Act (March 3, 1905)
Leases Around Reservoirs Act (March 3, 1962)

Mineral Leasing Act (February 25, 1920)
Mineral Leasing Act for Acquired Lands Act (August 7, 1947)
Mineral Resources on Weeks Law Lands Act (March 4, 1917)
Mineral Springs Leasing Act (February 28, 1899)
Mining Claims Rights Restoration Act of 1955 (August 11, 1955)
Mining and Minerals Policy Act of 1970 (December 31, 1970)
Multiple-Use Sustained-Yield Act of 1960 (June 12, 1960)

National Environmental Policy Act of 1969 (January 1, 1970)
National Forest Management Act of 1976 (October 22, 1976)
National Forest Roads and Trails Act (October 13, 1964)
National Historic Preservation Act (October 15, 1966)
National Historic Preservation Act Amendments of 1980 and 1992 (December 12, 1980)
National Trails System Act (October 2, 1968)

Occupancy Permits Act (March 4, 1915)
Organic Act (1897)

Petrified Wood Act (September 28, 1962)
Pipelines Act (February 25, 1920)
Preservation of Historical and Archeological Data Act (May 24, 1974)
Public Land Surveys Act (March 3, 1899)
Public Rangelands Improvement Act of 1978 (October 25, 1978)

Rehabilitation Act of 1973, as amended
Renewable Resources Extension Act of 1978 (June 30, 1978)
Research Grants Act (September 6, 1958)
Right of Eminent Domain Act (August 1, 1888)
Rural Development act of 1972 (August 30, 1972)
Safe Drinking Water Amendments of 1977 (November 16, 1977)
Sikes Act (October 18, 1974)
Small Tracts Act (January 22, 1983)
Smokey Bear Act (May 23, 1952)
Soil and Water Resources Conservation Act of 1977 (November 18, 1977)
Solid Waste Disposal (Resource Conservation and Recovery Act of 1976)
(October 21, 1976)
Supplemental National Forest Reforestation Fund Act (September 18, 1972)
Surface Mining Control and Reclamation Act of 1977 (August 3, 1977)
Sustained Yield Forest Management Act (March 29, 1944)

Timber Export Act (March 4, 1917)
Timber Exportation Act (April 12, 1926)
Title Adjustment Act (April 28, 1930)
Toxic Substances Control Act (October 11, 1976)
Transfer Act (February 1, 1905)
Twenty-Five Percent Fund Act (May 23, 1908)

Uniform Federal Accessibility Standards (in accordance with the Architectural Act of 1968)
U.S. Criminal Code (Title 18, United States Code, Chapter 91 – Public Lands)
(June 25, 1948)
U.S. Mining Laws (Public Domain Lands) May 10, 1872

Volunteers in the National Forest Act of 1972 (May 18, 1972)

Water Quality Improvement Act of 1965 (April 3, 1965)
Water Resources Planning Act (July 22, 1965)
Watershed Protection and Flood Prevention Act of 1954 (August 4, 1954)
Weeks Act Status for Certain Lands Act (September 2, 1958)
Weeks Act of 1911 (March 1, 1911)
Wild and Scenic Rivers Act (October 2, 1968)
Wilderness Act of 1964 (September 3, 1964)
Wildlife Game Refuges Act (August 11, 1916)
Wood Residue Utilization Act of 1980 (December 19, 1980)
Woodsy Owl/Smokey Bear Act (June 22, 1974)

Youth Conservation Corps Act (August 13, 1970)

Regulations

36 CFR 60 National Register of Historic Places

36 CFR 212	Forest Development Transportation System
36 CFR 213	Administration Under Bankhead-Jones Act
36 CFR 219	Planning
36 CFR 221	Timber Management Planning
36 CFR 222	Range Management
36 CFR 223	Sale and Disposal of National Forest System Timber
36 CFR 228	Minerals
36 CFR 241	Fish and Wildlife
36 CFR 251	Land Uses
36 CFR 254	Landownership Adjustments
36 CFR 261	Prohibitions
36 CFR 291	Occupancy and Use of Developed Sites and Areas of Concentrated Public Use
36 CFR 292	National Recreation Areas
36 CFR 293	Wilderness-Primitive Areas
36 CFR 294	Special Areas
36 CFR 295	Use of Motor Vehicles Off Forest Development Roads
36 CFR 296	Protection of Archeological Resources
36 CFR 297	Wild and Scenic Rivers
36 CFR 800	Advisory Council on historic Preservation

40 CFR 1500-1508 Council on Environmental Quality

National Electrical Code
National Fire Code
Uniform Building Code
Uniform Mechanical Code
Uniform Plumbing Code

Executive Orders

E.O. 11593	Protection and Enhancement of Cultural Environment
E.O. 11990	Protection of Wetlands
E.O. 11644/11989	Use of Off-Road Vehicles
E.O. 11988	Floodplain Management
E.O. 12113	Independent Water Project Review
E.O. 13112	Invasive Species
E.O. of 01/12/01	Responsibility of Federal Agencies to Protect Migratory Birds
E.O. 12898	Environmental Justice

Best Management Practices for Idaho

The Administrative Rules of the Idaho Department of Health and Welfare, Water quality and Wastewater Treatment (IDAPA 16, Title 01, Chapter 02, February 20, 1996) lists documents that contain approved Best Management Practices. On page 71 (IDAPA 16.01.01.335.03) these documents are listed and include:

- Idaho Forest Practices Rules as adopted by Board of Land Commissioners
- Idaho Department of Health and Welfare (IDHW) Rules, Title 1, Chapter 6, “Rules Governing Solid Waste Management.”

- IDHW Rules, Title 1, Chapter 3, “Rules Governing subsurface and Individual Sewage Disposal Systems.”
- “Rules and Minimum Standards for Stream Channel Alterations” as adopted by the Board of Water Resources.
- “Rules Governing Exploration and Surface Mining Operations in Idaho” as adopted by the Board of Land Commissioners.
- “Rules Governing Placer and Dredge Mining in Idaho” as adopted by the Board of Land Commissioners

Wildlife Species List

Curlew Valley Area Wildlife Species List

The following list, from Groves *et al.*, (1997), includes all species documented in the Curlew Valley area. This includes migrants, wintering birds, uncommon species and species finding habitat on adjacent private lands outside of the Grassland.

COMMON NAME	SCIENTIFIC NAME
REPTILES AND AMPHIBIANS	
Tiger Salamander	<i>Ambystoma tigrinum</i>
Western toad	<i>Bufo boreas</i>
Striped Chorus Frog	<i>Pseudocris triseriata</i>
Pacific Chorus Frog	<i>Pseudacris regilla</i>
Great Basin Spadefoot	<i>Spea intermontanus</i>
Northern Leopard Frog	<i>Rana pipiens</i>
Short-horned Lizard	<i>Phrynosoma douglassi</i>
Desert Horned Lizard	<i>Phrynosoma platyrhinos</i>
Sagebrush Lizard	<i>Sceloporus graciosus</i>
Western Fence Lizard	<i>Sceloporus occidentalis</i>
Western Skink	<i>Eumeces skiltonianus</i>
Western Whiptail	<i>Cnemidophorus tigris</i>
Rubber Boa	<i>Charina bottae</i>
Racer	<i>Coluber constrictor</i>
Night Snake	<i>Hypsiglena torquata</i>
Striped Whipsnake	<i>Masticophis taeniatus</i>
Gopher Snake	<i>Pituophis melanole</i>
Western Terrestrial Garter Snake	<i>Thamnophis elegans</i>
Common Garter Snake	<i>Thamnophis sirtalis</i>
Western Rattlesnake	<i>Crotalus viridis</i>
MAMMALS	
Vagrant Shrew	<i>Sorex vagrans</i>
Water Shrew	<i>Sorex palustris</i>
Merriam's Shrew	<i>Sorex merriami</i>
Little Brown Myotis	<i>Myotis lucifugus</i>
Yuma Myotis	<i>Myotis yumanensis</i>
Long-eared Myotis	<i>Myotis evotis</i>
Long-legged Myotis	<i>Myotis volans</i>
Western Small-footed Myotis	<i>Myotis ciliolabrum</i>
Silver-haired bat	<i>Lasionycteris noctivagans</i>
Big Brown Bat	<i>Eptesicus fuscus</i>
Hoary Bat	<i>Lasiurus cinereus</i>
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>
Pallid Bat	<i>Antrozous pallidus</i>
Mountain Cottontail	<i>Sylvilagus nuttallii</i>
White-tailed Jackrabbit	<i>Lepus townsendii</i>
Black-tailed Jackrabbit	<i>Lepus californicus</i>

Pygmy Rabbit
 Least Chipmunk
 Yellow Pine Chipmunk
 Yellow-billied Marmot
 Townsend's Ground Squirrel
 Uinta Ground Squirrel
 Golden-mantled Ground Squirrel
 Red Squirrel
 Northern Flying Squirrel
 Northern Pocket Gopher
 Idaho Pocket Gopher
 Great Basin Pocket Mouse
 Ord's Kangaroo Rat
 Beaver
 Western Harvest Mouse
 Deer Mouse
 Canyon Mouse
 Northern Grasshopper Mouse
 Desert Woodrat
 Bushy-tailed Woodrat
 Meadow Vole
 Montane Vole
 Long-tailed Vole
 Sagebrush Vole
 Muskrat
 Western Jumping Mouse
 Common porcupine
 Coyote
 Red Fox
 Common Raccoon
 Ermine
 Long-tailed Weasel
 American Badger
 Western Spotted Skunk
 Striped Skunk
 Mountain Lion
 Bobcat
 Elk
 Mule Deer
 Pronghorn

Brachylagus idahoensis
Tamias minimus
Tamias amoenus
Marmota flaviventris
Spermophilus townsendii
Spermophilus armatus
Spermophilus lateralis
Tamiasciurus hudsonicus
Glaucomys sabrinus
Thomomys talpoides
Thomomys idahoensis
Perognathus parvus
Dipodomys ordii
Castor canadensis
Reithrodontomys megalotis
Peromyscus maniculatus
Peromyscus crinitus
Onychomys leucogaster
Neotoma lepida
Neotoma cinerea
Microtus pennsylvanicus
Microtus montanus
Microtus longicaudus
Lemmings curtatus
Ondatra zibethicus
Zapus princeps
Erethizon dorsatum
Canis latrans
Vulpes vulpes
Procyon lotor
Mustela erminea
Mustela frenata
Taxidea taxus
Spilogale gracilis
Mephitis mephitis
Felis concolor
Felis rufus
Cervus elaphus
Odocoileus hemionus
Antilocapra americana

BIRDS

Pied-billed Grebe	<i>Podilymbus podiceps</i>
American Bittern	<i>Botaurus lentiginosus</i>
Great Blue Heron	<i>Ardea herodias</i>
Canada Goose	<i>Branta canadensis</i>
Green-winged Teal	<i>Anas crecca</i>
Mallard	<i>Anas platyrhynchos</i>
Northern Pintail	<i>Anas acuta</i>
Blue-winged Teal	<i>Anas discors</i>
Cinnamon Teal	<i>Anas cyanoptera</i>
Northern Shoveler	<i>Anas clypeata</i>
Gadwall	<i>Anas strepera</i>
American Wigeon	<i>Anas americana</i>
Redhead	<i>Aythya americana</i>
Ruddy Duck	<i>Oxyura jamaicensis</i>

Turkey Vulture
Northern Harrier
Sharp-shinned Hawk
Coopers Hawk
Northern Goshawk
Swainson's Hawk
Red-tailed Hawk
Ferruginous Hawk
Golden Eagle
American Kestrel
Peregrine Falcon
Prairie Falcon
Gray Partridge
Chukar
Ring-necked Pheasant
Ruffed Grouse
Sage Grouse
Sharp-tailed Grouse
Virginia Rail
Sora
American Coot
Sandhill Crane
Killdeer
Black-necked Stilt
American Avocet
Willet
Spotted Sandpiper
Long-billed Curlew
Common Snipe
Wilson's Phalarope
Mourning Dove
Common Barn-owl
Flammulated Owl
Western Screech Owl
Great Horned Owl
Burrowing Owl
Long-eared Owl
Short-eared Owl
Northern Saw-whet Owl
Common Nighthawk
Common Poorwill
White-throated Swift
Black-chinned Hummingbird
Calliope Hummingbird
Broad-tailed Hummingbird
Belted Kingfisher
Red-naped Sapsucker
Downy Woodpecker
Hairy Woodpecker
Northern Flicker
Olive-sided Flycatcher
Western Wood-pewee
Willow Flycatcher
Dusky Flycatcher
Gray Flycatcher
Say's Phoebe

Cathartes aura
Circus cyaneus
Accipiter striatus
Accipiter cooperii
Accipiter gentilis
Buteo swainsoni
Buteo jamaicensis
Buteo regalis
Aquila chrysaetos
Falco sparverius
Falco peregrinus
Falco mexicanus
Perdix perdix
Alectoris chukar
Phasianus colchicus
Bonasa umbellus
Centrocercus urophasianus
Tympanuchus phasianellus
Rallus limicola
Porzana carolina
Fulica americana
Grus canadensis
Charadrius vociferus
Himantopus mexicanus
Recurvirostra americana
Catoptrophorus semipalmatus
Actitis macularia
Numenius americanus
Gallinago gallinago
Phalaropus tricolor
Zenaida macroura
Tyto alba
Otus flammeolus
Otus kennicottii
Bubo virginianus
Speotyto cunicularia
Asio otus
Asio flammeus
Aegolius acadicus
Chordeiles minor
Phalaenoptilus nuttallii
Aeronautes saxatalis
Archilochus alexandri
Stellula calliope
Selasphorus platycercus
Ceryle alcyon
Sphyrapicus nuchalis
Picoides pubescens
Picoides villosus
Colaptes auratus
Contopus borealis
Contopus sordidulus
Empidonax traillii
Empidonax oberholseri
Empidonax wrightii
Sayornis saya

Ash-throated Flycatcher
Western Kingbird
Eastern Kingbird
Horned Lark
Tree Swallow
Violet-green Swallow
Northern Rough-winged Swallow
Bank Swallow
Cliff Swallow
Barn Swallow
Western Scrub Jay
Pinyon Jay
Black-billed Magpie
American Crow
Common Raven
Black-capped Chickadee
Mountain Chickadee
Plain Titmouse
Bushtit
Rock Wren
Canyon Wren
House Wren
Marsh Wren
American Dipper
Golden-crowned Kinglet
Ruby-crowned Kinglet
Blue-gray Gnatcatcher
Mountain Bluebird
Townsend's Solitaire
Veery
Swainson's Thrush
American Robin
Gray Catbird
Sage Thrasher
Cedar Waxwing
Loggerhead Shrike
Plumbeus Vireo
Warbling Vireo
Orange-crowned Warbler
Virginia's Warbler
Yellow Warbler
Yellow-rumped Warbler
Blue-throated Gray Warbler
MacGillivray's Warbler
Common Yellowthroat
Yellow-beated Chat
Western Tanager
Black-headed Grosbeak
Lazuli Bunting
Green-tailed Towhee
Spotted Towhee
Chipping Sparrow
Brewer's Sparrow
Vesper Sparrow
Lark Sparrow
Sage Sparrow

Myiarchus cinerascens
Tyrannus verticalis
Tyrannus tyrannus
Eremophila alpestris
Tachycineta bicolor
Tachycineta thalassina
Stelgidopteryx serripennis
Riparia riparia
Hirundo pyrrhonota
Hirundo rustica
Aphelocoma californica
Gymnorhinus cyanocephalus
Pica pica
Corvus brachyrhynchos
Corvus corax
Parus atricapillus
Parus gambeli
Parus inornatus
Psaltirparus minimus
Salpinctes obsoletus
Catherpes mexicanus
Troglodytes aedon
Cistothorus palustris
Cinclus mexicanus
Regulus satrapa
Regulus calendula
Polioptila caerulea
Sialia currucoides
Myadestes townsendi
Catharus fuscescens
Catharus ustulatus
Turdus migratorius
Dumetella carolinensis
Oreoscoptes montanus
Bombycilla cedrorum
Lanius ludovicianus
Vireo plumbeus
Vireo gilvus
Vermivora celata
Vermivora virginiae
Dendroica petechia
Dendroica coronata
Dendroica nigrescens
Oporornis tolmiei
Geothlypis trichas
Icteria virens
Piranga ludoviciana
Pheucticus melanocephalus
Passerina amoena
Pipilo chlorurus
Pipilo maculatus
Spizella passerina
Spizella breweri
Poocetes gramineus
Chondestes grammacus
Amphispiza belli

Savannah Sparrow
Grasshopper Sparrow
Fox Sparrow
Song Sparrow
Lincoln's Sparrow
Dark-eyed Junco
Bobolink
Red-winged Blackbird
Western Meadowlark
Yellow-headed Blackbird
Brewer's Blackbird
Common Grackle
Brown-headed Cowbird
Bullock's Oriole
Cassin's Finch
House Finch
Red Crossbill
Pine Siskin
American Goldfinch
Evening Grosbeak

Passerculus sandwichensis
Ammodramus savannarum
Passerella iliaca
Melospiza melodia
Melospiza lincolnii
Junco hyemalis
Dolichonyx oryzivorus
Agelaius phoeniceus
Sturnella neglecta
Xanthocephalus xanthocephalus
Euphagus cyanocephalus
Quiscalus quiscula
Molothrus ater
Icterus bullockii
Carpodacus cassinii
Carpodacus mexicanus
Loxia curvirostra
Carduelis pinus
Carduelis tristis
Coccothraustes vespertinus

Revegetation Species List

Potential Plant Species for Revegetation

The following list includes the most common native and non-native plants which may be used for seeding on the Curlew. This list is subject to change without further analysis and mixes will be individually tailored to the objectives of the project. This list is based on historical plantings, wildlife preferences, information from the Regional Ecologist, and testing from the Aberdeen, Idaho Plant Materials Center (St. John 1997). It is an example of currently available plants for rangeland seedings for relatively large projects suitable for the Grassland. Many other native forbs are available but only for small landscape projects. Success of species establishment is subject to climate, site preparation, quality of seed and the level of disturbance during establishment.

COMMON NAME	SCIENTIFIC NAME
NATIVE SPECIES	
GRASSES	
Bluebunch wheatgrass	<i>Agropyron spicata</i> (sym. <i>Pseudoroegneria spicata</i>)
Indian ricegrass	<i>Oryzopsis hymenoides</i> (sym. <i>Achnatherum hymenoides</i>)
Basin wildrye	<i>Elymus cinereus</i> (sym. <i>Leymus cinerues</i>)
Streambank wheatgrass	<i>Elymus trachycaulus</i>
Sandberg bluegrass	<i>Poa secunda</i> (sym. <i>Poa sandbergii</i>)
Mountain brome	<i>Bromus marginatus</i>
Snake River wheatgrass	<i>Elymus wawawaiensis</i> (related to bluebunch wheatgrass)
FORBS	
Yarrow	<i>Achillea millefolium</i>
Lewis Flax	<i>Linum lewisii</i>
Daisies	<i>Aster spp.</i> (e.g. <i>Aster chilensis</i>)
Buckwheat	<i>Eriogonum umbellatum</i> or <i>E. herachleoides</i>
Utah sweetvetch	<i>Hedysarum boreale</i>
Arrowleaf balsamroot	<i>Balsamorhiza sagittata</i>
Milkvetch	<i>Astragalus spp.</i> (e.g. <i>Astragalus cicer</i>)
Globe-mallow	<i>Sphaeralcea coccinea</i>
Penstemon	<i>Penstemon spp.</i>
SHRUBS	
Mountain Big Sagebrush	<i>Artemisia tridentata</i> v. <i>vaseyana</i>
Basin Big Sagebrush	<i>Artemisia tridentata</i> v. <i>tridentata</i>
Antelope bitterbrush	<i>Purshia tridentata</i>
Hawthorn	<i>Crataegus spp.</i>
Serviceberry	<i>Amelanchier alnifolia</i>
Chokecherry	<i>Prunus virginia</i>
Winterfat	<i>Ceratoides lanata</i>
Wild Rose	<i>Rosa woodsii</i>

NON-NATIVE SPECIES	
GRASSES	
Crested wheatgrass	<i>Agropyron cristatum</i>
Intermediate wheatgrass	<i>Elytrigia intermedia</i>
Desert wheatgrass	<i>Agropyron desertorum</i>
Siberian wheatgrass	<i>Agropyron fragile</i>
NewHy wheatgrass	<i>Elymus hoffmannii</i>
Thickspike wheatgrass	<i>Elymus lanceolatus</i>
FORBS	
Small burnett	<i>Sanguisorba minor</i>
Clover	<i>Trifolium spp.</i>
Alfalfa	<i>Medicago sativa</i>
Salsify	<i>Tragopogon porrifolius</i>

References used for species list:

USDA-ARS, Forage and Range Research Lab. No Date. Intermountain Planting Guide. USDA-ARS, Forage and Range Research Lab. Logan, Utah. 104 pp.

St. John, L. 1997. Curlew National Grasslands Off-Center Advanced Test Site, Summary of Progress 1992-1997. USDA, Aberdeen Plant Materials Center. Aberdeen, Idaho. 21 pp.

Lehman, R. 2001. Vegetation Practice Design using VegSpec for native and non-native species. USDA-NRCS. The PLANTS database, Version 3.1. (<http://plants.usda.gov>). National Plant Data Center. Baton Rouge, Louisiana.